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**“Study of cooperative learning as a tool /strategy to address the  
SEN of students in mainstream classrooms of primary inclusive  
schools”**

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## **Declaration**

I Meenakshi Srivastava declare that this work is done by me based on the literature in the books, internet resources and data collected. This work has never been presented before and can be used for reference by other researchers.

**Signature**

**Signature**

**Date**

**Dean of Faculty**

### **Abstract**

*This study is an exploration of cooperative learning as a teaching strategy to address the special educational needs (SEN) of students in the mainstream classroom. In India SEN is not recognized in the classrooms. Most commonly it remains unidentified and unattended. With the shift from special schools to inclusive schools like everywhere in the world the pressing need in India is to address SEN in the mainstream classrooms. This provides as a background and starting point for an investigation of cooperative learning as a teaching strategy to address the SEN of students in mainstream classrooms.*

*The study has investigation in the light of rich literature in cooperative learning.*

*This investigation was carried out in 4 inclusive primary schools and 2 primary special schools of the Czech Republic and the Netherlands. Qualitative approach involving interview, observation and data analysis was employed. The sample size included class teachers of students 9-10 and 11-12 years and SENCO of the schools.*

*The findings indicate that cooperative learning is used as a teaching strategy in the schools. It benefits all students in the mainstream classroom. It is one of the factors contributing in academic progress of students with SEN. Reading in the group has shown improvement in reading speed and reading comprehension. Cooperative learning contributes in developing social skills of the students which are the prime motivation of teachers to use it. It was also found that teachers have to be oriented towards the benefits of this method as it not only benefits students with SEN but all students in the classroom. It needs careful planning and monitoring on teachers part.*

*This investigation has opened myriad implications in my practice. I can present it as one of the teaching methods especially for the large class sizes in India. It has opened doors for further investigation to explore cooperative learning from student's perspective.*

**Key words:** *teaching strategy, special educational needs, cooperative learning, benefits of cooperative learning, mainstream classroom.*

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*“Nobody is good at everything but everybody is good at something”*

*Anonymous*

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## **CHAPTER ONE**

### **Introduction**

This chapter outlines my motivation of undertaking study in the area of teaching methods to address the special educational needs (SEN), specifically dyslexia in a mainstream classroom. Today, there is an emerging consensus that children and young people with special educational needs should be included in the educational arrangements made for the majority of the children. This has led to the concept of the inclusive school. The challenge confronting the inclusive school is that of developing a child- centered pedagogy capable of successfully educating all children.

In India, the issue of disability as a whole is not recognized. There is a need for awareness and information about disability and rights. Therefore a national response to learning disorders (LD) including dyslexia is lacking. Some of the barriers in recognizing disability are lack of awareness among government agencies, policy-makers of education boards, teachers and parents. Primary care physicians, pediatricians and even psychiatrists are not equipped well enough to objectively evaluate all the causes of Poor School Performance (PSP) in a child. Therefore, there are, monumental issues in both the Health and Education Sectors grappling with this silent handicap affecting about 10 per cent of school children (Philip et al., 2001, in Smythe .et al 2004)

Unfortunately, in India the evolution of the concept of dyslexia is placed under the rubric of the Health Sector. But the sheer force of numbers of children afflicted by this malady persuades us to shift and move this responsibility from health sector to mainstream Education infrastructure.

This situation in India is unlike the European countries, where dyslexia is recognized as disability. Dyslexia is a disability because learners with severe and persistent dyslexia have specific learning disability, are print-impaired, need effective information access and are prohibited from participating fully in education and employment without appropriate accommodation and support.

One of the key findings of the international adult literacy study (1994) is, "literacy is strongly associated with economic life chances and well-being. It affects, inter alia, employment stability, the incidence of unemployment and income." (Study, 1994 in Sayles & Bogdanowicz, 2004 p. 6)

In United Nations document, "Towards United Nations Convention on the Human Rights of Persons With Disabilities (2000)" that, "parties must recognise that every child has unique characteristics, interests abilities and learning needs and education systems should be designed to provide informed evaluations and derive appropriate educational programmes to accommodate the wide diversity of these characteristics and needs". Dyslexia can be characterised as a diverse learning style as well as a learning disability. (UN document in Sayles & Bogdanowicz 2004, p.7)

This establishes recognition of dyslexia as a disability and therefore suffices it with the rights of life and welfare, appropriate education and work.

Responding to this UN document the European parliament came up with an own initiative report, declaring "the need for the UN convention objectives to be a binding statement of law at international level" (Sayles & Bogdanowicz 2004, p.7)

This document is extremely relevant to the establishment of the rights of people with dyslexia and provide the basis for all countries to design right-based legislation for Persons with Disabilities and/ special educational needs.

Special educational needs (SEN)<sup>1</sup> incorporates the proven principles of education from which all children may benefit. It assumes that human differences are normal and that learning must accordingly be adapted to the needs of the child rather than the child fitted to preordained assumptions regarding the pace and nature of the learning process. A child-centered pedagogy is beneficial to all pupils and, as a consequence, to children with dyslexia in particular and society as a whole. While dyslexia is a condition inherent in the human species, it manifests itself mainly in confrontation with the educational demands of society. Dyslexia affects people differently according to their personal circumstances. The diversity of linguistic, cultural, historic and contextual backgrounds is a major factor in the severity and consequences of dyslexia. The overall effects of dyslexia depend on individual languages, systems of spelling and grapheme-phoneme correspondences, but also on

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<sup>1</sup> Special Educational Needs, will be abbreviated and used as SEN

different educational methods and policies and socio-cultural conditions. However, the ability to read and write is essential to successful participation in European society. This UN Convention has resulted in proactive policies for evaluation and accommodation of educational programs for dyslexia of European countries.

I will be discussing the education systems in brief to clarify the status of dyslexia in the Czech Republic and the Netherlands. The education systems are seen in the light of recognising dyslexia as a disability and various proactive measures taken by the governments to include dyslexic students in the regular classrooms.

### 1.1. Dyslexia in Czech Republic

The Czech education system is Multi-track system. In this system, pupils with SEN can either attend the mainstream classes or they can be taken out of the mainstream classes to be taught in specialised classes (in the mainstream schools) or they attend special schools. If a pupil is not able to attend the school, the regional authority has to provide a form of education, which enables him to reach the same level education as the compulsory school attendance.

#### 1.1.1. General Structure and System of Education

Czech education system consists of Pre-Primary education provided by nurseries and kindergartens. This is voluntary for children between ages 3 to 6 years.

**Basic schools** provide full time 9 years of education to the primary level, and second stage (6-9 grades) corresponding to the lower secondary level.

**Upper secondary schools** provide general education and prepare students especially for the entry to the higher education institution. Multiyear upper secondary in its lower grades provide pupils with the basic education. Age attending to upper secondary school is 15 to 19 years. There are 3 types of secondary schools- secondary grammar school/ general school, secondary specialized / technical schools and secondary vocational schools.

**Tertiary education** is in two grades leading to Bachelor's degree and Master's degree provided by universities and professional colleges. See graph .1.

### 1.1.2 Special Provision for children with SEN within Mainstream Education

Education of children and young people with SEN is based on the principle of 'Current education if possible, special education if necessary'. This principle is being applied gradually and the system is shifting from a prevalence of education in special schools towards increasing integration. ([www.eurydice.org](http://www.eurydice.org))

In the European Agency for Development in Special Needs Education (2005) it is stated that according to the level of disability and the school's circumstances, pupils can be integrated into regular schools at all levels of education in different ways:

- individually into main stream classes/schools, with adequate educational conditions and necessary special pedagogical and psychological cares;
- in the form of group integration into special classes of schools in the main stream set up for visually and hearing impaired, physically or mentally disabled pupils, pupils with speech difficulties and pupils with several disabilities;
- into specialized classes for e.g. within the main stream set up for pupils with specific, behavioural and learning difficulties.
- Within group integration pupils can be educated together with other pupils of the school in some subjects and are involved in all extracurricular activities in accordance with their abilities. These are called as "mini dyslexic classes". Therefore integrated education of children with dyslexia is

In the form of individual and group integration in:

- Basic mainstream school and
- Schools for children with Specific Learning Disorders.

It is possible to integrate a child with SEN into a class for pupils with a different form of disability in special cases. Their education then follows an individual educational programme according to the child's needs.

According to the European Agency for Development in Special Needs Education (2005)

Apart from these provisions in the education system to support inclusion of children with SEN the government has provisions to support teachers in the form of providing in-service training for professional development. The counseling services are provided to both children



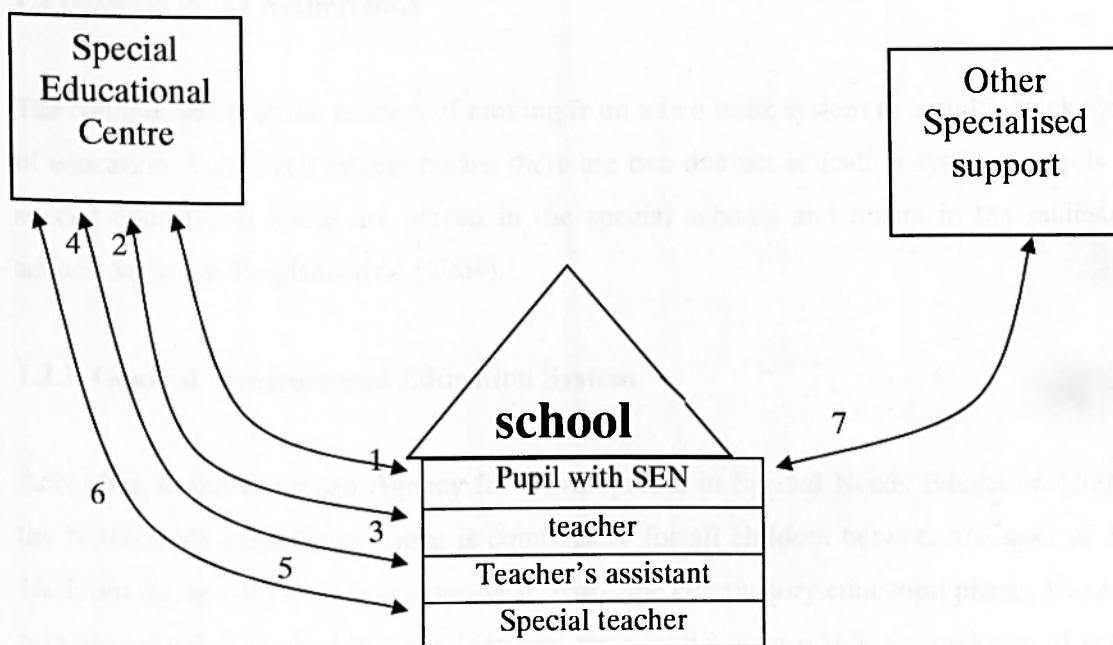
with SEN and mainstream teachers. This service is also for the parents. The support teacher – *teacher's assistant* is becoming a reality, though this kind of support is still more or less the exception rather than a regular routine within the educational system due to the national budget limits. Educational psychological counseling centers provide a person, who assists a teacher of an integrated pupil. The teacher is also supported by a specialist for specific activities. See diagram 1. (The European Agency for Development in Special Needs Education 2005)

According to Zelinkova (2004) in the Czech Republic about 8 percent of children are diagnosed with learning disabilities and most of them are children with dyslexia; the number of children with dyscalculia is much lower. About 5 percent of children suffer from mild learning disabilities. Czech society is quite well informed about dyslexia and the difficulties connected with it. Most dyslexic children are integrated in normal schools. They are taught using other methods appropriate to the individual needs of every child. A child with LD must have an individual education plan (IEP) which is as similar as possible to the plan of non-disabled children. The child has a support service which is mostly one extra hour of therapy of therapy provided by the teacher with special education training or by a teacher who has attended specialized courses. Laws and regulations accepted by the ministry of education provide dyslexic individuals with the right to free education, which included the right to special education and other related services for children with dyslexia.

After assessment by specialists in educational Psychological counseling centre, teachers and therapists use a multisensory approach. Several publishers have published exercise books and teaching aids dealing with the treatment of dyslexia and dyscalculia. Recently computer programs for improving reading have been launched. To train teachers and their professional growth, wide range of courses are offered by the Faculty of education and Czech Dyslexia Association. For teachers in Czech Republic university education is obligatory. (Zelinkova, 2004 in Smythe .et al 2004)



## SUPPORT OF A PUPIL IN A MAINSTREAM SCHOOL



- 1 - visits to school  
- special methods  
- special training  
- special teaching aid (or materials)
- 2 - information about a pupil  
- teaching methods
- 3 - visits to school  
- counselling  
- solving problems  
- seminars on special pedagogical topics or ways of inclusion
- 4 - reports about a pupil
- 5 - visits to school  
- counselling  
- solving problems  
- seminars on special pedagogical topics or ways of inclusion
- 6 - mutual cooperation
- 7 - support and aid needed (speech therapist, behavioural therapist, psychologist ...)

Source: SPC Vertikala, PRI Zakladini Skole Specialini, Rooseveltovoa, Praha.

Diagram .1.

## 1.2 Dyslexia in the Netherlands

The Netherlands is in the process of moving from a two track system to a multi- track system of education. Two track system means there are two distinct education systems; pupils with special educational needs are placed in the special schools and others in the mainstream school. Sayles & Bogdanowicz, (2004).

### 1.2.1. General Structure and Education System

According to the European Agency for Development in Special Needs Education (2005) in the Netherlands school attendance is compulsory for all children between the ages of 5 and 16. From the age of 16 there is a two-year, part-time compulsory education phase. The end of primary school is marked by tests (national examinations) in which the majority of schools participate. This assessment procedure is important in the process of choosing the best type of secondary education placement. After a relatively short transition period (one or two years) in a secondary school the pupils have to choose between the different types of secondary education. Secondary education in the Netherlands is highly tracked. It comprises:

- pre-university education (VWO; 6 years, age 12-18);
- senior general secondary education (HAVO; 5 years; age 12-17);
- junior general secondary education (MAVO; 4 years, age 12-16);
- pre-vocational education (VBO; 4 years, age 12-16), including an individual track (IVBO);
- special education for learning and/or behavioural problems (VSO-LOM ; 2 years, age-12-13);
- special education for learning difficulties (VSO-MLK; 4 years, age 12-16).

(See graph 2)

Special education refers to a separate system of special provision. This includes the peripatetic supervision of pupils in mainstream education. Separate primary and secondary special education is provided for children for whom it has been established that a special approach is most appropriate. This assessment of special educational needs is done by specialists in the assessment centers.

Special educational provision currently has ten different categories, including: schools for the hearing impaired, the visually impaired, the physically handicapped, the severely mentally retarded and pupils with serious behaviour problems.

Pupils returning from special to mainstream education are entitled to certain facilities, as are pupils with sensory, physical or multiple handicaps, who although they are eligible for special education have not been referred to a special school. These facilities in the form of so-called preventive *ambulant teaching* are used to an increasing extent. Almost .003 per cent of all pupils receive ambulant teaching in primary and secondary schools. . (The European Agency for Development in Special Needs Education 2005)

In the Netherlands, in-service education for teachers is not obligatory though many teachers follow short courses on various subjects. Due to integration policies, the number of in-service special needs education courses is increasing and offered by universities and schools of professional development.

### **1.2.2. Development of Integration/Inclusion**

It is noted in the European Agency for Development in Special Needs Education (2005) that, for a long time, the highly differentiated and extensive special education system was seen as expressing concern for pupils with special educational needs. Currently, this point of view is the subject of much debate. A growing group of policymakers, educators and parents think segregation in education has gone too far. A gradually increasing number of parents want their child with special educational needs to attend a mainstream school because they wish him/her to go to the same school as siblings; to attend a neighbourhood school, or/and to educate their child with non-special needs children.

'Together to School Again' (WSNS policy) aims to support the integration of pupils with learning difficulties (so-called LOM pupils) and mildly mentally disabled pupils (so-called MLK pupils). As a part of this policy all primary schools and special schools for pupils with learning difficulties and the mild mental retardation have been grouped into regional clusters over the last few years. Each cluster consists of one or more special schools working with 25 primary schools on average. This has resulted in a nation-wide network in which every special and mainstream school is attached to a cluster. Extra funding is available for this.

The policy is known as the '*back-pack*' policy: pupils take the funding with them to the school of their choice. An important characteristic of demand-oriented financing is that parents have an important say in choosing a school for their child. Means would be made available only after a positive decision by a body of experts. If a pupil met the criteria for a pupil-bound budget, parents and pupil could choose a school and decide with the school on how to use the funding. The European Agency for Development in Special Needs Education (2005)

According to the working definition of the health council of the Netherlands in 1995 approximately 3 percent of the children can be considered dyslexic. Eleveld, (2005).

It is noted in Bos (2004) that the Dutch society is very well aware about dyslexia as it is a regular theme in Dutch media. The recent sales figure of books on dyslexia is also a sign of the public awareness. There is a national parent association for developmental, behavioural and learning problems called Balans. The Stichting Dyslexic Nederland (SDN) (Netherlands dyslexia association) has recently published a dyslexie protocol which is used country wide in mainstream schools by teachers to screen and intervene for the dyslexic children. This protocol is a standard tool developed by the association.

The various courses and programmes are offered by the association and various universities to train teachers and their professional development. Further there is a provision in the legal policy for secondary school of extra financial support in order to let the children with dyslexia participate in a remedially oriented programme by the central government, secondly, there is the statutory order on final examinations allowing the dyslexic pupil to spend an extra 30 minutes to complete a particular test. (Bos, 2004 in Smythe .et al 2004)

### **1.3 Statement of problem**

India presents imponderable issues in SEN. Dyslexia is a hidden handicap in country wide classrooms. The major hurdle is our country's multilingual pluralism and linguistic diversity. India's 1,000 million people use at least 1,600 mother tongues and the country boasts 20 recognised languages. Though Hindi is the national language but English is legislative and judicial language. Therefore it is mandatory that the child learns at least three languages starting even at the primary level. The plethora of problems for a dyslexic child is

compounded by this system of multilingual exposure. To complicate the matters further there are several School Education Boards- the Central Board of Secondary Education (CBSE) and the all India Council for School Examination(AICSE).these have regulations common for the entire country and their school boards while 28 States and 7 Union Territories have independent examination boards with regulations which apply only to those territories.

In spite of overwhelming evidence of specific learning disorders being SEN, the Persons with Disabilities Act 1995, and the Rehabilitation Council of India Act do not recognize dyslexia as a disability. (Philip .et al in Smythe .et al 2004 page 123)

However, the country has made significant strides in the areas of teacher sensitization and provisions for dyslexic students through the determined efforts of Educational boards. The CBSE has taken pioneering steps by organizing Teacher Training/Orientation Programmes, by publishing handbooks for teachers on causes and remediation of Poor school Performance. The State boards are following suit, though tardily. The current educational policy stresses the concept of inclusive education, advocating that children with special educational needs use the mainstream infrastructure.

In spite of policy-makers and teachers obstinately maintaining that dyslexia is only problem of pushy parents or fantasy of researchers, bold initiatives by various examination boards, especially CBSE have come as a boon for dyslexic students. These initiatives include alternate curriculum, extra time, the use of calculators, the use of an amanuensis, and consideration of content against spellings in their examinations. There is also a separate National Open School curriculum devised for the academically disadvantaged students.

There are no reliable data about remedial services available across the country; there is certainly no uniformity in the diagnostic criteria or types of remedial services provided. (Ramaa, 1992 in Smythe .et al 2004)

The national picture of access to services is quite uneven, agencies and specialists being available mostly in the urban areas alone. This is where a paradigm shift is called for, to deal with the enormous number of children needing services. Some 20-25 percent of children in every class score 'poor marks'.

(Philip .et al in Smythe .et al 2004 page 124)

#### 1.4. Summary

It is this backdrop of my country which motivated me to take up a study of teaching strategy which would help a mainstream classroom teacher to address the SEN of classroom. The purpose of this study is focused by my interest from my work experience as a special educator to look into effective teaching methods in the classroom to cater the children with SEN. One of the very interesting teaching methods I observed during my placement in a primary mainstream school of the Netherlands and Czech Republic is Cooperative learning. This has been my experience while working with the teachers and professionals that there are not enough effective classroom management skills and instructional methods to address "hidden handicap" in the mainstream classroom. In India, special schools, special centers or separate schools for dyslexia are not the answer as there are not many trained professionals. Specially in a country with large classroom sizes without any assistance (assistant teacher in the Czech Republic, ambulant teacher in the Netherlands) or resource centers (counseling centers as in the Czech Republic and special schools in the Netherlands) in India there are no special funds available for them like through local municipality in the Czech Republic or a back pack in the Netherlands. Hence, what is required is a teaching method which helps a teacher and the students with and without SEN to improve the process of learning. Like everywhere in the world professionals in India also face a challenge to address the special educational needs of children with dyslexia in the regular classroom. Keeping this pressing need of India in mind I would like to investigate and present a teaching method which is effective in large size classrooms and is low cost. In my placement and practical experience I found cooperative learning as one of the teaching method in the mainstream classrooms of the two countries, Czech Republic and The Netherlands where I based my further research.

My main objective is:

To explore cooperative learning as a teaching method to cater SEN in the mainstream classroom.

My central research question is:



- 1) How does cooperative learning as teaching method help in addressing the SEN of children with dyslexia in the mainstream classroom?

Within this central question I try to investigate

- 1) How can cooperative learning be used effectively in addressing the SEN of the students with dyslexia.
- 2) What are other methods to address the SEN of students with dyslexia in a mainstream classroom?

In the forth coming chapter 2 I present the literature review highlighting dyslexia, instructional methods and cooperative learning as teaching method in the regular classroom.

Chapter 3 focuses on the research methodology used to gather data for investigation. It presents rationale for the selection of the instruments used, the procedures used for administration and strategies employed to overcome limitations.

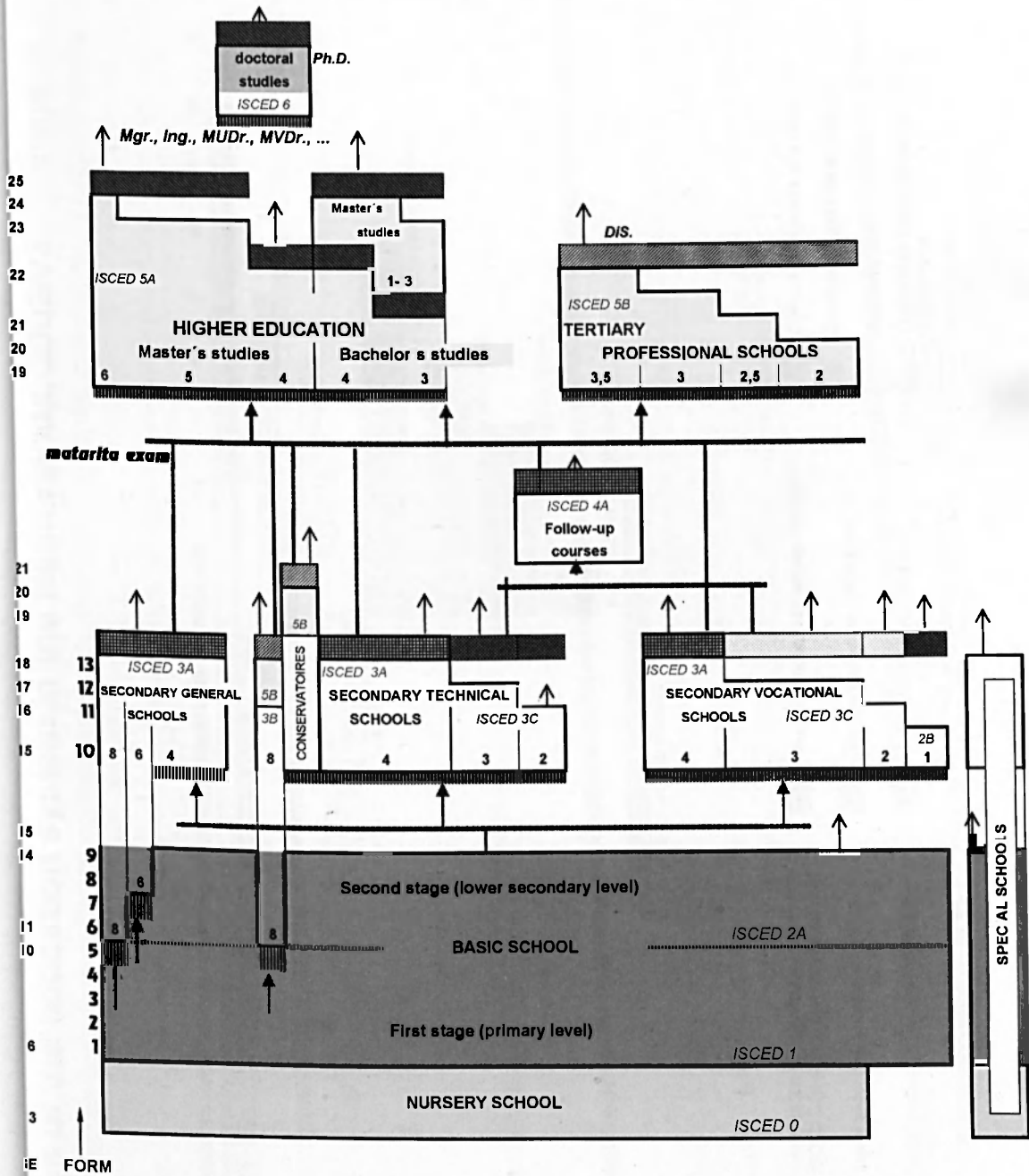
Chapter 4 presents results of interview with the teachers and SENCO with excerpts, brief comments as observations.

Chapter 5 deals with evaluation of the results of the results of investigation in the form of a discussion. The interpretation is in the context of the review of literature.

Chapter 6 is the conclusion of what has been done in conducting he interviews and what has been achieved with the implications of the findings. It has recommendations to what can be done to enhance the use of cooperative learning as a teaching method.

Education system of the Czech Republic in 2003

Graph 1



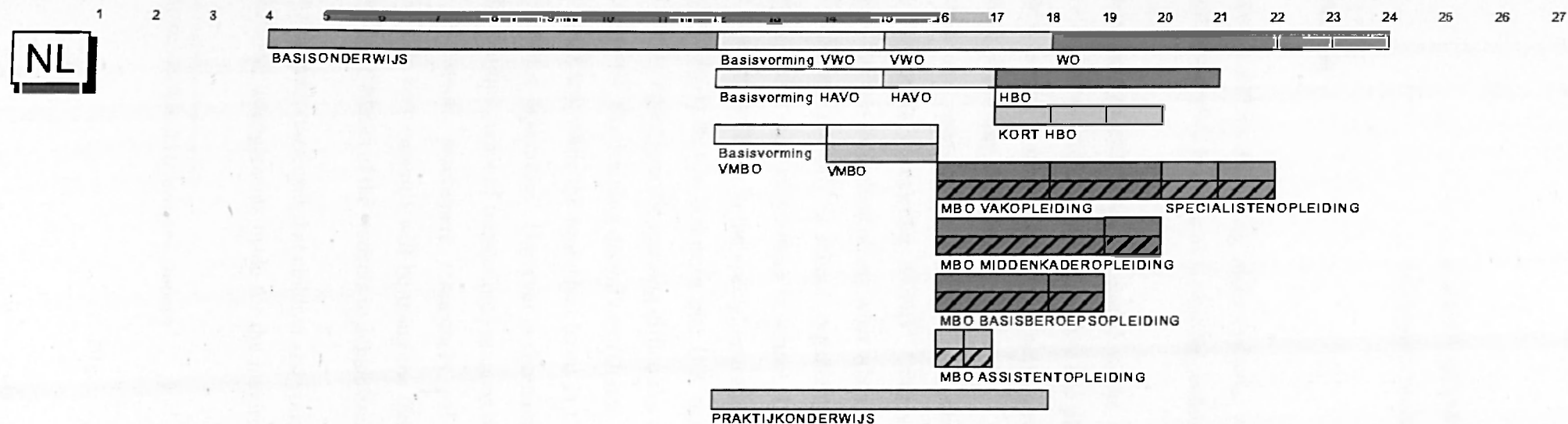
ations:

- final exam
- final exam + apprenticeship certificate
- maturita exam
- absolutorium
- final state exam, rigorous state exam, doctoral state exam
- admission exam
- next educational level
- practice



# Organisation of the education system in the Netherlands, 2002/03

Graph 2



Pre-primary education (non-school settings) - ISCED 0

Pre-primary (school settings) - ISCED 0

Primary - ISCED 1

Single structure - ISCED 1 + ISCED 2

Lower secondary general - ISCED 2 (including pre-vocational)

Lower secondary vocational - ISCED 2

Upper secondary general - ISCED 3

Upper secondary vocational - ISCED 3

Post-secondary non-tertiary - ISCED 4

Tertiary education - ISCED 5A

Tertiary education - ISCED 5B

Part-time or combined school and workplace courses

Compulsory full-time education

Compulsory part-time education

Additional year

Compulsory work experience + its duration

Study abroad

Source: Eurydice.

## CHAPTER TWO

### Literature review

#### 2.1. Introduction

In this chapter I will be discussing about dyslexia, various learning styles and instructional methods and cooperative learning as a teaching method to address the SEN of dyslexic in the classroom.

Many special educational needs are found in the mainstream classroom. A mainstream classroom may contain children with cognitive and physical ability levels considered normal for their ages, as well as conditions such as autism, cerebral palsy, Down syndrome or other developmental or learning disabilities.

Special educational needs are an umbrella term which contains dyslexia (various reading problems), dysgraphia, dyscalculia, ADHD<sup>2</sup>. Other symptoms are problems in schoolwork, expressing themselves or understanding what others are saying, making friends or relating to the adults, behaving properly in school, organizing themselves, some kind of physical or sensory needs which may affect them in school. Different countries use different terms to define and provide facilities to the special educational needs of the children. It is noted in Smythe .et al (2004) that in countries like U.K the above mentioned special educational needs are covered under specific learning difficulties therefore dyslexia is one of them. Other countries use terms like learning disabilities (United States and Canada), Legasthenie (used by german speakers), while the equivalent terms in Chinese (in Hong Kong) is translated as reading and writing difficulties'. However in common use the term dyslexia and its linguistic relatives (i.e. various forms of translations) remains dominant, and is understood throughout the world by parents, practioners, researchers and dyslexics themselves. (Smythe .et al (2004). For this very reason I will be using the term dyslexia in my work to refer to the various reading problems of the students in a mainstream classroom.

There is an emerging consensus that children and young people with SEN should be included in the educational arrangements made for the majority of the children. This has led to the

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<sup>2</sup> ADHD: Attention Deficit and Hyperactive Disorder

concept of inclusive school. The challenge confronting the inclusive school is developing a child-centered pedagogy capable of successfully educating all children.

There are different teaching strategies to address dyslexia in a classroom. These teaching strategies are based on different learning styles of the students. The most commonly recommended and used methods are the multisensory approaches, confidence building activities in the classroom. One of the teaching methods is cooperative learning.

## **2.1. Dyslexia**

Dyslexia has been coined from the Greek and literally means **difficulty with (dys) words** (lexis). Pollack (1994)

### **2.1.1. Dyslexia as a disability**

People with dyslexia have literacy difficulties because dyslexia is a language-based learning difficulty. Individuals with dyslexia process language differently from others. Substantial research has shown that differences in brain structure, organisation and function are related to difficulties in processing written and spoken language. Sayles & Bogdanowicz, (2004).

Dyslexia is recognised as a disability by international medical criteria such as that set by the World Health Organisation's Diagnostic Criteria for Research ICD-10- The Tenth Revision of the International Statistical Classification of Diseases and Related Health Problems and in subsection 315.00 of the American Psychiatric Association's Diagnostic and Statistical manual (4<sup>th</sup> edition 1994), under the heading, " disorders usually first diagnosed in infancy, childhood, or Adolescence-Learning Disorders", the DSM-IV<sup>3</sup> discusses reading disorders , as measured by standardized test that is given individually, the patient's ability to read (accuracy or comprehension) is substantially less than you would expect considering age, intelligence and education." It also states that, "this deficiency materially impedes academic achievement or daily living." (Sayles & Bogdanowicz, 2004, p. 6).

Throughout the twenty-five EU members there are significant variations in defining disabilities and special educational needs. While some countries, such as Denmark, define

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<sup>3</sup> DSM-IV-TR: Latest version 2000

only one or two types of special needs and others, while Poland, use ten or more categories, most countries define six to ten types of special needs. These differences are strongly related to administrative, financial and procedural regulations and do not reflect variations in incidence and the types of disability or special educational needs between these countries. Sayles & Bogdanowicz, (2004).

In continuation to the definitions stated in the law, the definition of special educational needs in the education act 1996 of U.K is given as: a child has a learning difficulty if (a) the child has a significantly greater difficulty in learning than the majority of children of the same age. (b) The child had a disability which either prevents or hinders use of educational facilities of a kind generally provided for children of the same age in schools within the area of the LEA. (Local education authority). National Dissemination Centre for the children with disabilities (2004)

However Orton (2004) finds that in U.K there is a lesser but growing debate about whether dyslexia is a disability. (Orton 2004, Smythe. et al 2004).

The U.S special education law, the Individuals with Disabilities Education Act, IDEA defines a specific learning disability as:

"... a disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, that may manifest itself in an imperfect ability to listen, think, speak, read, write, spell, or do mathematical calculations, including conditions such as perceptual disabilities, brain injury, minimal brain dysfunction, dyslexia, and developmental aphasia."

However, learning disabilities do not include, "...learning problems that are primarily the result of visual, hearing, or motor disabilities, of mental retardation, of emotional disturbance, or of environmental, cultural, or economic disadvantage." 34 Code of Federal Regulations §300.7(c) (10) (National Dissemination Centre for the children with disabilities, 2004).

One of the difficulties regarding definitions is that dyslexic children are first and foremost individuals and while they may share some common difficulties there are individual differences. The British Dyslexia Association suggests a broad description of dyslexia as "a

combination of abilities and difficulties which affect the learning process in one or more of reading, spelling and writing. Accompanying weaknesses may be identified in areas of speed of processing, short term memory, sequencing, auditory and /or visual perception, spoken language and motor skills. It is particularly related to mastering and using written language, which may include alphabetic, numeric and musical notation". (Reid, 2001)

The definition by the Adult Dyslexia Organisation in the U.K. suggests that "Dyslexia may be caused by a combination of phonological, visual and auditory processing deficits. Word retrieval and speed of processing difficulties may also be present. A number of possible underlying biological causes of these cognitive deficits have been identified and it is probable that in any one individual there may be several causes. Every dyslexic person is different and should be treated as an individual. Many show talents actively sought by employers and the same factors that cause literacy difficulties may also be responsible for highlighting positive attributes - such as problem solving which can tap resources which lead to more originality and creativity." (Schloss 1999 in Reid, 2001).

Another working definition by Literacy and Psychological Assessment in the U.K. (BPS 1999) says "*Dyslexia is evident when accurate and fluent word reading and/or spelling develops very incompletely or with great difficulty.* This focuses on literacy learning at the 'word level' and implies that the problem is severe and persistent despite appropriate learning opportunities".

According to my work experience I would define dyslexia as students having specific difficulties in academics with average or above average intelligence. They are good at problem solving but may not read or comprehend. Sometimes problems reflect in writing, computing arithmetic. Other manifestations in daily life are problems in time, space, direction orientations. Many times problems are reflected in motor co-ordination for instance tying shoe laces or buttoning.

### **2.1.2 Causes of dyslexia**

#### **Genetic Factors**

There have been considerable efforts to identify the genetic basis for dyslexia. The risk of a son being dyslexic if he has a dyslexic father is about 40%. This is based on the heritability



of reading sub-skills and particularly the phonological component (Gilger, 1991 in Reid 2001). There is a strong heritability element among 'phonological dyslexics' and there is also a strong heritability component both for phonological decoding and orthographic skills. (Olson, 1994 et al in Reid 2001)

Gene markers for dyslexia have been found in chromosome 15 (Smith, et al in Reid 2001) and more recently in chromosome 6 (Fisher et. al 1999 in Reid 2001). There is a possibility of dyslexic genes in chromosome 6 and significantly they may be in the same region as the genes implicated in autoimmune diseases that have been reported to show a high level of association with dyslexia (Stein and Monaco 1998; Snowling 2000 in Reid 2001). Therefore genetic factors are associated with dyslexia.

### **The Dyslexic Brain**

New technology such as positron emission tomography (PET) and magnetic resonance imaging (MRI) are used to observe the active processes within the brain as well as the structure. Therefore studies have shown that in phonological and short-term memory tasks the dyslexic sample displays less activation across the left hemisphere. The PET scans of young dyslexic adults while reading aloud and word and non-word recognition tasks showed less activation than controls in the left posterior temporal cortex. (Brunswick, et al 1999 in Reid 2001) These findings suggest that there may be processing differences indicating some deficits in left hemisphere processing among children and adults with dyslexia.

### **Hemispheric Symmetry**

According to earlier influential research (Geschwind and Galaburda 1985 in Reid 2001) these differences are due to structural differences between the hemispheres and are likely to develop in the prenatal period. This view is supported by Leppanen, et al 1999 in Reid 2001) that at birth children at genetic risk of dyslexia show different patterns of brain activity. This can have implications for teaching and learning to read. According to a balance model of reading (Bakker, 1994 in Reid 2001) there are different types of readers - 'perceptual' and 'linguistic' each with a different hemispheric preference and each having implications for teaching. The perceptual has a right hemisphere processing style and may have good comprehension but poor reading accuracy. On the other hand the 'linguistic' reader utilises the left hemisphere and reads accurately but in some cases may be over-reliant on the left hemisphere and may not show the comprehension level of the 'perceptual' reader.

Reading is concerned with translating stimuli across all modalities and fluency is the key factor in reading acquisition. The role of the visual cortex in reading is multi-modal as it will accept input from both auditory and visual modalities. The brain is high in visual-spatial skills and this also aids the understanding of information with high phonetic complexity. (Wood, 2000 in Reid, 2001).

### **Visual Factors**

There is also evidence of visual factors relating to dyslexia. Eden et al (1996 in Reid 2001) shows dyslexic children can have abnormalities associated with the magno-cellular sub-system of the visual cortex. Stein (1994 in Reid 2001) has highlighted convergence difficulties and binocular instability and Wilkins (1995 in Reid 2001) has shown some dyslexic children and adults may benefit from coloured overlays due to difficulties in some visual processes.

### **Phonological processing**

Hagtvet (1997 in Reid 2001) in a Norwegian study showed that a phonological deficit at age six was the strongest predictor of reading difficulties. Other studies have shown speech rate to be a strong predictor of dyslexic difficulties. Muter, Hulme and Snowling (1997 in Reid 2001).

Wolf (1996) points that 'double deficit' hypothesis meaning that dyslexics can have difficulties with both phonological processing and naming speed. Badian (1997 in Reid 2001) in a study shows evidence for a triple deficit hypothesis implying that orthographic factors also involves visual skills.

### **Motor factors**

Cerebellar impairment may be implicated with dyslexia viewed from a broader framework and may be involved in acquiring language dexterity as well as movement and balance Nicolson and Fawcett, (1999 in Reid 2001). There have been many studies reporting on fine motor and gross motor difficulties experienced by dyslexic children (Augur 1985 et al in Reid 2001).

### **2.1.3 Symptoms of dyslexia**

In the classroom dyslexia manifests as

**Difficulties with spelling:** dyslexic children have spelling errors in short, simple words for example most commonly misspelt words are any, many, island, said, they, because, enough, and friend. Other words sometimes spelt phonologically are does/dus, please/pleeze, knock/nock, search/serch, journey/jerney, etc.

Dyslexic children also experience difficulties with 'jumbled spellings'. These are spelling attempts in which all the correct letters are present, but are written in the wrong order. For example dose/does, freind/friend, siad/said, bule/blue, becuase/because, and woress/worse. 'Jumbled spellings' show that the child is experiencing difficulty with visual memory.

### **Confusion over left and right**

Dyslexic children have confusions about the directions of left and right. Apart from reading and writing this shows in their daily lives in the form of following directions or instructions involving right or left.

### **Writing letters or numbers backwards**

Generally associated with directions is the mixing up of 'b' and 'd', or even 'p' and the number 9. These letters are the same in their mirror image, and cause regular confusion for a dyslexic person.

### **Difficulties with math/s**

One feature of dyslexia is difficulties with sequencing - getting things in the right order. Math/s depends on sequences of numbers - 2. 4. 6. 8. Etc. Dyslexic students not only have problems with reading and spelling, they have problems in operations as well.

### **Difficulties organizing themselves**

Dyslexic students may have genuine difficulties with planning and thinking ahead that when a book or pen might be needed next.

### **Difficulty following 2- or 3-step instructions**

Instructions like 'Go to Mrs. Brown and ask her if Peter Smith is in school today. Oh, yes, and ask if I can borrow her dictionary' – are difficult for dyslexic children. It involves both sequencing and memory skills, and dyslexic child could return with the dictionary and information about Peter Smith! Dyslexia teacher (2006)



## 2.3 Instructional methods

Research consistently reveals that when students are taught through their preferred style they demonstrate : 1)statistically significant improvement in their attitudes towards instruction,2)increased tolerance for cognitive diversity , 3)statistically significant increased academic achievement, 4) better discipline/ behaviour , and 5)greater self discipline in homework completion(Given, in Reid 1996 page 327)

### Learning style models

Learning style is described as a set of ‘...traits that serve as relatively stable indicators of how learners perceive, interact with, and respond to the learning environment’. Over 100 learning style models exist and most can be grouped into one or more of the following five categories:1)personality and emotional models,2)psychological, cognitive and information models,3) social models, 4)physical models and 5)environmental and instructional models. (Given, in Reid 1996 page 327)

Some other approaches focus on relatively narrow aspects of learning styles such as a preference for visual, auditory, tactual or kinesthetic input. (Given and Strnadova, 2004)

So it is important for a teacher to know the learning styles of the students so that the curriculum or instructions could be modified and suit to the students preferred style. Moreover, use of multi-sensory teaching (MST) is one of the better ways for the student to understand and retain the given information. MST incorporates three main learning styles: the auditory, which comprises the listening and the verbal learner; the visual, which includes the print as well as the picture learner; and the kinesthetic, which incorporates the tactile way of learning. (Lamarche & Bisson, 2002).

Instructional methods are ways that instruction is presented to students. These fall into two categories: teacher-centered approaches and student- centered approaches. There is not one "best" approach to instruction. Some goals are better suited to teacher-centered approaches while others clearly need student-centered approaches (Shuell, 1996). **Teacher-centered instruction** has been criticized as ineffective and grounded in behaviorism (Marshall et al 1992,) however this is not the case if delivered effectively (Eggen & Kauchak, 2001).

Teacher-centered approaches include instruction where the teacher's role is to present the information that is to be learned and to direct the learning process of students (Shuell, 1996). The teacher identifies the lesson objectives and takes the primary responsibility for guiding the instruction by explanation of the information and modeling. This is followed by student practice

**Lecture:** Teacher or Instructor presents material to the students. This method allows material to be clarified and presented to a large group in a short period of time. It also allows an instructor to show his or her passion about a subject, and thereby increase students' interest in the subject. . However it has many advantages as this format gives the instructor the most control of the class in terms of amount of interaction, type of substance presented, and organization or material. It is useful for large groups. Lecture format is an efficient method to present material. However it is not the best method for learning material. The teacher can present material in a logical manner. Teacher's passion and enthusiasm for the subject can motivate students to pursue a topic on their own.

Some of the disadvantages are that the students can be passive in their learning. There may not be student interaction as the communication is mainly one way (from the teacher to the student); therefore, learning can be difficult to determine. The teacher can present too much material. Learning depends to some level on the student's ability to take notes, unless the notes are handed out to the students. The teacher can be disorganized or unclear in their explanations. Being an expert in the field does not guarantee that the teacher is an effective lecturer.

However, Lecture is the most criticized of all teaching methods AND the most commonly used because 1) planning time is limited, 2) lectures are flexible and can be applied to any content and 3) lectures are simple.

**Demonstration** involves the teacher showing students a process or procedure such a science process, a cooking procedure or a computer procedure. Involvement of students in demonstrations makes it be less passive.

**Lecture-discussion** is a combination of lectures and teacher questioning. It makes student less passive as they are involved by the teacher but the danger is that if not planned and organized this can lead to a haywire session.

**Direct Instruction** is used to help students learn concepts and skills. There are various models of direct instruction but all include similar steps: 1) Introduction & Review 2) Presentation of new information 3) Guided practice 4) Independent practice.

Direct teaching, also known as direct instruction is a powerful teaching tool in the classroom. Direct teaching is also associated with Clinical Teaching, Target Teaching, and Instructional Theory into Practice (TIP). Direct teaching is a systematic instructional method that first and foremost requires the teacher to have a command of the subject matter at as close to a mastery level as possible. This means that whether subject matter is at the elementary level, middle school level, high school level, college level or adult education level, that the teacher thoroughly "understands" the content. Such understanding presupposes that the teacher "knows" more than the facts, but also the structure of the content. In short, it means that the teacher understands each item of the content in more than one way. The main purpose of direct teaching is to provide information within a structure that enables all students to attain the stated objectives at a level of mastery. Inferences may be made at this point that direct teaching is least attractive to those teachers who themselves lack mastery of the content. Direct teaching or direct instruction is a systematic way of planning, communicating, and delivering in the classroom. It is similar to the lecture method. Direct Teaching Information (2006)

Grounded by constructivism, **Learner-centered Approaches** involve instruction where the teacher is a facilitator (or guide) as the learners must construct their own understandings. There are a number of methods in this category. Few of them are listed here:

**Discussion:** Teachers stimulates knowledge that students have. Ideas and concepts are exchanged between all participants, students and instructor. The communication is multi-way. Discussions are to encourage students to apply abstract concepts and develop critical thinking skills. One of the advantages of discussion is that it encourages active learning by the students. The discussion draws on the group's knowledge, and not just the teacher's expertise. This format encourages students to develop higher-order reasoning skills such as analysis, synthesis, and evaluation this method develops student's abilities to formulate questions and communicate ideas. However it has disadvantages as discussion can become unfocussed or dominated by a small group of students. It is difficult for students to

summarize the important points in a discussion. Participation ensures active learning but it is hard to have participation of all students. The use of the discussion method is not practical for more than 20-30 students. It can occur in larger groups, but the facilitator must be very skilled. It requires careful planning by the facilitator and depends highly on the skill of facilitator to guide the discussion. There often seems to be a lack of organization and clearly defined goals in a discussion.

Designed to encourage thinking skills, discussion allows learners to increase interpersonal skills.

Discovery Learning provides learners with information they use to construct learning.

Planning for instruction (2003)

**Role-play** is a part of solving problems through action. A problem is identified, acted out and discussed. The role-play process provides students with an opportunity to 1) explore their feelings, 2) gain insight about their attitudes, and 3) increase problem solving skills.

Simulations are meant to put the student in a "real" situation without taking the risks involved. Simulations are meant to be as realistic as possible and students are able to experience consequences of their behavior and decisions. Simulations are often used in science such as dissecting a frog using the computer. Planning for instruction (2003)

**Case Studies** are another teaching method. This means to apply classroom knowledge to a real-life situation that is presented as unresolved. Case studies are used to show a general principle or a problem-solving strategy. Case studies can be group work or class discussion. Its advantages are active learning, it strengthens analytic and problem-solving skills, it gives opportunity to read different source documents. It shows direct application of concepts previously learned. It develops student's skills in group learning, public speaking skills. Its disadvantages are that case must be clearly defined but case preparation is time consuming for the teacher or instructor. It requires preparation of the background material on student's part. It can miss major points and concept students can feel that the class is too unstructured. Instead of large class size it works best in smaller classes. Washington university teaching centre (2003)

## 2.4 Cooperative Learning

In teaching strategies much of time is devoted to teaching material and instructions than on the student's interaction. However students can learn best by working in groups for a common goal. They can celebrate the success despite the facts of different special educational needs, male or female, ethnic backgrounds or disability. Cooperative learning is one of the teaching strategy adapted by the teachers widely now. There are researches and studies done in order to establish the effectiveness of this method.

According to a sociocognitive view of the learning process, learning occurs within a social context (Mugny & Doise, et al 1978). When an individual interacts with other individuals, the individual typically will learn, receive feedback, or glean information from something that contradicts the individual's beliefs current understanding.

That conflict or perturbation causes the individual to recognize and reconstruct his or her existing knowledge base (Dimant & Bearison, 1991, Rogoff), this result in a better understanding and retention of new information. Interaction, therefore, is the catalyst for cognitive growth.

Because interaction can occur only when a person is with other persons and learning occurs through such interaction, putting learners together can lead to activities that produce knowledge construction or learning. Many learning and instructional approaches that manipulate the environment in which learners work and cooperate with each other has illustrated growth in cognitive, intellectual, social, and affective areas (Johnson, Johnson, & Maruyama, 1983; Slavin, 1991).

"Cooperative learning is a successful teaching strategy in which small teams, each with students of different levels of ability, use a variety of learning activities to improve their understanding of a subject. Each member of a team is responsible not only for learning what is taught but also for helping teammates learn, thus creating an atmosphere of achievement. Documented results include improved academic achievement, behavior and attendance, increased self-confidence and motivation, and increased liking of school and classmates. Cooperative learning is also relatively easy to implement and is inexpensive." Education consumer guide (1992).

In a cooperative learning situation, interaction is characterized by positive goal interdependence with individual accountability. Positive goal interdependence requires



acceptance by a group that they "sink or swim together". There is a difference between simply having students work in a group and structuring groups of students to work cooperatively. A group of students sitting at the same table doing their own work, but free to talk with each other as they work, is not structured to be a cooperative group, as there is no positive interdependence

#### 2.4.1. Elements of cooperative learning

It is only under certain conditions that cooperative efforts may be expected to be more productive than competitive and individualistic efforts. These conditions are:

1. Clearly perceived **positive interdependence**: The first requirement for an effectively structured cooperative lesson is that students believe that they "sink or swim together."

Johnson, Johnson, & Holubec, (1993)

Within cooperative learning situations, students have two responsibilities: 1) learn the assigned material, and 2) ensure that all members of the group learn the assigned material. The technical term for this dual responsibility is positive interdependence. According to Johnson & Johnson, (1989), Positive interdependence exists when students perceive that they are linked with group mates in such a way that they cannot succeed unless their group mates do (and vice versa) and/or that they must coordinate their efforts with the efforts of their group mates to complete a task.

Positive interdependence promotes a situation in which students: a) see that their work benefits group mates and their group mates' work benefits them, and b) work together in small groups to maximize the learning of all members by sharing their resources to provide mutual support and encouragement and to celebrate their joint success. Johnson & Johnson, (1989)

When positive interdependence is clearly understood, it establishes that:

Each group member's efforts are required and indispensable for group success (i.e., there can be no "free-riders"). (Roger and Johnson, 1994)

Each group member has according to Johnson & Johnson, (1989) a unique contribution to make to the joint effort because of his or her resources and/or role and task responsibilities.

There are a number of ways of structuring positive interdependence within a learning group.

**Positive goal interdependence-** Students perceive that they can achieve their learning goals if and only if all the members of their group also attain their goals. The group is united around a common goal. In order to ensure that students believe they "sink or swim together" and care about how much each other learns, the teacher has to structure a clear group or mutual goal, such as "learn the assigned material and make sure that all members of the group learn the assigned material." The group goal always has to be a part of the lesson. (Roger and Johnson, 1994)

**Positive reward** – in order to celebrate interdependence each group member receives the same reward when the group achieves its goals. Supplementing goal interdependence, teachers may wish to add joint rewards (e.g., if all members of the group score 90% correct or better on the test, each receives 5 bonus points).

Sometimes teachers give students:

- a group grade for the overall production of their group,
- an individual grade resulting from tests, and
- bonus points if all members of the group achieve the criterion on tests.

Regular celebrations of group efforts and success enhance the quality of cooperation. (Roger and Johnson, 1994)

**Positive resource interdependence-** Each group member has only a portion of the resources, information, or materials necessary for the task to be completed; the members' resources have to be combined for the group to achieve its goals. Teachers may wish to highlight the cooperative relationships by giving students limited resources that must be shared (one copy of the problem or task per group) or giving each student part of the required resources that the group must then fit together. (Roger and Johnson, 1994)

**Positive role interdependence-** Each member is assigned complementary and interconnected role that specify responsibilities that the group needs in order to complete the joint task. Teachers create role interdependence among students when they assign them complementary roles such as reader, recorder, checker of understanding, encourager of participation, and elaborator of knowledge. Such roles are vital to high-quality learning. The role of checker, for example, focuses on periodically asking each group mate to explain what is being learned. Roger and Johnson, (1994)

Rosenshine and Stevens (1986) found that "checking for comprehension" to be one specific teaching behavior that was significantly associated with higher levels of student learning and achievement. Although the teacher cannot continually check the understanding of every student, the teacher can engineer such checking by having students work in cooperative groups and assigning one member the role of checker. (Rosenshine and Stevens, 1986 in Roger and Johnson, 1994)

2. Considerable **promotive (face-to-face) interaction**: Positive interdependence results in promotive interaction. Promotive interaction is defined as individuals encouraging and facilitating each other's efforts to achieve, complete tasks, and produce in order to reach the group's goals. Although positive interdependence in and of itself may have some effect on outcomes, it is the face-to-face promotive interaction among individuals fostered by the positive inter-relationships, and psychological adjustment and social competence.

Promotive interaction is characterized by individuals providing each other with efficient and effective help and assistance; exchanging needed resources, such as information and materials, and processing information more efficiently and effectively; providing each other with feedback in order to improve their subsequent performance; challenging each other's conclusions and reasoning in order to promote higher quality decision making and greater insight into the problems being considered; advocating the exertion of effort to achieve mutual goals; influencing each other's efforts to achieve the group's goals; acting in trusting and trustworthy ways; being motivated to strive for mutual benefit; and with low level of anxiety and stress. (Roger and Johnson, 1994)

3. Clearly perceived **individual accountability** and personal responsibility to achieve the group's goals: It is an essential element of cooperative learning, which exists when the performance of individual students is assessed, the results are given back to the individual and the group, and the student is held responsible by group mates for contributing his or her fair share to the group's success. It is important that the group knows who needs more assistance, support, and encouragement in completing the assignment. It is also important that group members know they cannot "hitchhike" on the work of others. When it is difficult to identify members' contributions, when members' contributions are redundant, and when members are not responsible for the final group outcome, they may be seeking a free ride (Harkins & Petty et al 1982 in Roger and Johnson, 1994). This is called social loafing.



The purpose of cooperative learning groups is to make each member a stronger individual in his or her own right. Individual accountability is the key to ensuring that all group members are, in fact, strengthened by learning cooperatively. Therefore after participating in a cooperative lesson, group members should be better prepared to complete similar tasks by themselves.

#### 4. Frequent use of the relevant **interpersonal and small-group skills**:

The fourth essential component of cooperative learning is the appropriate use of interpersonal and small-group skills. In order to coordinate efforts to achieve mutual goals, students must: 1) get to know and trust each other, 2) communicate accurately and unambiguously, 3) accept and support each other, and 4) resolve conflict constructively (Johnson et al, 1990 in Roger and Johnson, 1994). Placing socially unskilled students in a group and telling them to cooperate does not guarantee that they have the ability to do so effectively. No one is born instinctively knowing how to interact effectively with others. Interpersonal and small-group skills do not magically appear when they are needed. Students must be taught the social skills required for high quality collaboration and be motivated to use them if cooperative groups are to be productive. The whole field of group dynamics is based on the premise that social skills are the key to group productivity.

5. Frequent and regular **group processing** of current functioning to improve the group's future effectiveness: it is an essential component of cooperative learning. Effective group work is influenced by whether or not groups reflect on (i.e., process) how well they function. A process is an identifiable sequence of events taking place over time, and process goals refer to the sequence of events instrumental in achieving outcome goals (Johnson & F. Johnson, 1991).

Group processing may be defined as reflecting on a group session to: 1) describe what member actions were helpful and unhelpful, and 2) make decisions about what actions to continue or change. The purpose of group processing is to clarify and improve the effectiveness of the members in contributing to the collaborative efforts to achieve the group's goals. (Johnson & F. Johnson, 1991, in Roger and Johnson, 1994)

While the teacher systematically observes the cooperative learning groups, he or she attains a "window" into what students do and do not understand as they explain to each other how to complete the assignment. Listening in on the students' explanations provides valuable

information about how well the students understand the instructions, the major concepts and strategies being learned.

According to (Roger and Johnson, 1994), there are two levels of processing -- small group and whole class. In order to ensure that small-group processing takes place, teachers allocate some time at the end of each class session for each cooperative group to process how effectively members worked together. Groups need to describe what member actions were helpful and not helpful in completing the group's work and make decisions about what behaviors to continue or change. Such processing: 1) enables learning groups to focus on maintaining good working relationships among members, 2) facilitates the learning of cooperative skills, 3) ensures that members receive feedback on their participation, 4) ensures that students think on the metacognitive as well as the cognitive level, and 5) provides the means to celebrate the success of the group and reinforce the positive behaviors of group members.

These five elements are used for the effectiveness of cooperative learning. The teacher uses them as evaluative measures for learning in the classroom.

All healthy cooperative relationships have these five basic elements present. This is true of peer tutoring, partner learning, peer mediation, adult work groups, families, and other cooperative relationships. This conceptual "yardstick" should define any cooperative relationship.

#### **2.4.3. Discussion**

Over 600 studies have been conducted during the past 90 years comparing effectiveness of cooperative, competitive, and individualistic efforts. These studies have been conducted by a wide variety of researchers in different decades with subjects of different ages, in different subject areas, and in different settings. More is known about the efficacy of cooperative learning than about lecturing, departmentalization, the use of instructional technology, or almost any other aspect of education. The more one works in cooperative learning groups, the more that person learns, the better he understands what he is learning, the easier it is to remember what he learns, and the better he feels about himself, the class, and his classmates. Johnson et al. (1991)

Cooperative learning, although not the easiest way to teach, can revitalize students and faculty by providing a structured environment for sharing some of the responsibility for learning. Through working together to learn complex conceptual information and master knowledge and skills, students learn more, have more fun, and develop many other skills, such as learning how to work with one another. Faculty, meanwhile, must provide the foundation and learning structures to guide their students in this new learning experience.

However as one of the study notes that this is widely used and enhances the learning of students with reading difficulties. Use of cooperative learning in elementary classrooms appears to be widespread. A congressionally mandated study of educational opportunity covering 3 million third-grade students (Puma, Jones, Rock, & Fernandez, 1993) found that a high percentage of their teachers said they used cooperative learning in math (79%) and reading and language arts (74%). Another survey of 85 elementary school teachers in two school districts found that 93% indicated they used cooperative learning (Antil et al., 1998). An in-depth interview of a subset of those teachers who said they used this approach disclosed that 81% conducted cooperative learning lessons every day in a typical week, with 100% reporting use of the strategy for reading, and 81% for math. Teachers said they regularly used cooperative learning in four subjects" (Antil et al., 1998).

Another study shows positive results for the use cooperative learning as a tool to help children with learning difficulties learn effectively. "The results of this study provide optimism and support for the benefits that accrue to children with learning difficulties when they participate in structured cooperative learning in mainstream classes (Stevens & Slavin, 1995a, 1995b). The children with learning difficulties in the structured groups were more involved in their groups' activities and provided more directions and help to other group members than their peers in the unstructured groups. Through their interactions with others, these children received feedback and support that helped them clarify issues and build understandings. These reciprocal interactions probably served to maintain their involvement and interest in the group tasks, while simultaneously helping them to solve problems and construct new understandings (Webb et al., 1995; Witt rock, 1990). Furthermore, their responses on the comprehension questionnaire demonstrated that they had internalized specific routines for solving problems, especially on the more difficult questions requiring

applicative responses. Others have also reported that, when children are trained to work together and use a specific interactional style, the accuracy and comprehensiveness of the problems they complete is higher." (Fuchs et al., 1994).

Cooperative learning methods are most effective in producing academic gains when there is individual accountability. It means that when the success of the group depends upon the success of the each individual group member, group goals and individual accountability. This model is most effective in improving each group member's performance and promoting co-operation and better peer relations.(Slavin 1983a, 1983b,1990)

The Cooperative Learning Center in Hong Kong is using cooperative learning as an assessment tool. The centre states that "When assessing groups, it is also possible to assess each individual student. Teachers may observe each group member, give random individual oral examinations, have each student present their group's report to a few classmates, have students teach what they learned to someone else, give each student a problem that can be solved only by applying the knowledge and skills it took to complete the project, give each student an individual test, and assign each student a series of one-minute papers". The cooperative link (2003)

When children work cooperatively together, they show increased participation in group discussions, demonstrate a more sophisticated level of discourse, engage in fewer interruptions when others speak, and provide more intellectually valuable contributions to those discussions (Shachar & Sharan, 1994; Webb & Farivar, 1999 in Gillies 2006). The open discussion that occurs in cooperative groups enables participants to clarify ideas and perspectives in a context that is free of the perpetual scrutiny of the teacher and the wider class group (Howe, 1990,in Gillies 2006).

The role of a teacher in cooperative learning is of a facilitator who sets the climate of classroom conducive for interaction amongst the groups. In cooperative classrooms, teachers move among the groups to monitor progress and provide specific assistance. In this role, the teacher is 'the guide on the side, not the sage on the stage' (Hertz-Lazarowitz, 1992, in Gillies 2006) and the language used is more caring and personal as they work more closely with small groups. Furthermore, their language is often more spontaneous, varied, and creative as teachers communicate more positive

affective messages to their students (Hertz-Lazarowitz & Shachar, 1990 in Gillies 2006).

Peers are often more aware than their teachers of what other children do not understand, are able to focus the other student's attention to the relevant features of the problem, and provide explanations in a way that can be readily understood (Webb & Farivar, 1994 in Gillies 2006). The interactions that result not only benefit the recipient, but also the helper. Recipients benefit because they have learnt new ways of thinking about issues that they previously may not have considered, while helpers benefit because when they have to justify or explain their ideas to others, they are forced to reorganize their understandings and, in so doing, often obtain a clearer perspective on the problem than before, which has a positive effect on their learning performance (Webb & Farivar, 1999 Gillies 2006).

As barriers to successful implementation of group work, Cohen (1994) recognises undesirable domination on the part of some students, and non-participation and withdrawal on the part of others particularly in classroom with wide abilities. These barriers could be overcome only with intensive and ongoing teacher preparation and coaching.

The disadvantages with cooperative learning seem to come up only when the cooperative learning activities are poorly planned. When things get very chaotic, often times less learning occurs than would have if there had been whole group instruction Moody (2004), whereas sometimes it may happen that group doesn't know what they're doing and so none of the students learn; possibly a student might also think that they know what they're talking about but they don't and so they teach the others the wrong information. Byerly, (2004). Sometimes students can be left out. The students who are more extroverted are usually the ones that share ideas and offer help. The quieter students can be brushed to the side. They most likely have good ideas, but they do not voice them because they may be intimidated by the environment. Size, (2004). Similarly the shy students may get pushed off to the side and ignored but it would help to teach them to stand up for themselves Molly, (2004). Someone is usually the "leader" of the group. Then there are students who will just observe and analyze what is going on while others take a more active approach. For the students that become more active, they are the ones that will gain the most out of this type of learning. Contreras, (2004) it is necessary to see that the students stay on task. Arlington, (2004)



For this study I will define cooperative learning as “about student groups working together to solve a problem or complete a task. All students in the group must actively participate with each other being independent. For cooperative learning situation, there needs to be an accepted common goal on which the group is rewarded for its efforts. If a group of students has been assigned to do a task, but only one student does all the work and the others do not then it is not a group. A group has a sense of individual accountability meaning that all students need to know the material or spell well for the whole group to be successful. Putting students into groups does not necessarily gain a cooperative relationship; it has to be structured and managed by the teacher. . The success of the group depends on the input of each individual. This teaching method promotes active participation, individual accountability, and student ability to work cooperatively and improves social skills. Therefore cooperative learning is a means to an end rather than to an end in itself. It is a celebration of diversity in the class which brings out the best in everyone. It definitely contributes in developing academic and social skills in all students of the class. By all students I refer to students with and without SEN. In my teaching practice I have experienced that all the students have some or the other SEN.

## **2.5. Summary:**

Dyslexia is a most commonly difficulty with reading, spelling, pronouncing, writing and associating meanings of the words. it is also related to the reading comprehension. Manifesting it self in the classroom along with reading is writing and mathematical problems. It is has symptoms in daily lives as well. There are various teaching strategies in classroom management. And one of them is cooperative learning. Cooperative learning has become a widely used approach to organize students for learning activities (Slavin, 1995; Johnson & Johnson, 1999). It benefits all the students in the classroom in different ways. For some students it may be academic performance while for others it may be social skills. Students learn in interaction and develop skills from each other. It is one of the low cost teaching strategies which require careful planning.



## **CHAPTER THREE**

### **Research Methodology**

#### **3.1 Introduction**

The primary purpose of this study is to investigate the use of cooperative learning as one of the teaching method to address the SEN of regular classroom in the primary inclusive schools of Czech Republic and the Netherlands. This chapter focuses on the theory of educational research, the different approaches to educational research, the paradigm chosen for this study. It explains the basis of selection of flexible design, interviews and observations, their procedure of administration as my instruments for research. It also deals with the validation of the data, expected outcome and ethical considerations.

#### **3.2 Educational research**

Research is best conceived as the process of arriving at dependable solutions to problems through the planned and systematic collection, analysis and interpretation of data. It is most important tool for advancing knowledge, for promoting progress, and for enabling man to relate more effectively to his environment to accomplish his purposes, and to resolve his conflicts.

Hitchcock and Hughes (1995) says that in educational research ontological assumptions give rise to epistemological assumptions, giving rise to methodological considerations and finally leading to instrumentation and data collection ( Hitchcock and Hughes, 1995 in Cohen et al 2000, p.3).

When we use term educational research, we have in mind the application of these same principles to the problems of teaching and learning within the formal educational framework and to the clarification of issues having direct or indirect bearing on these concepts. The particular value of scientific research in education is that it will enable educators to develop the kind of sound knowledge base that characterizes other professions and disciplines: and one that will ensure education a maturity and sense of progression in at present lacks. (Cohen et al 2000)

Kuhn (1962) popularized the term paradigm to explain that in the scientific world groups of researchers use different theoretical frameworks to explain the nature of problems and in

which way these problems should be solved. A paradigm is "a theoretical framework within which the research is being conducted, and organizes the researcher's view of reality". The six major characteristics of a paradigm given by Kuhn (1962) include:

- a set of assumptions about the social world and humankind
- a set of distinctive concepts equal to vocabulary or discourse
- an established or accepted body of knowledge
- an indication of unanswered questions puzzles to be solved
- a methodology for attempting to solve them and is identified with a group of adherents or is embraced by a "scientific community".

The significance of paradigms in research is that they shape how we perceive the world and are reinforced by those around us, the community of practitioners. Within the research process the beliefs a researcher holds reflects in the way research is designed, how data is collected and analysed and how research results are presented. For the researcher it is important to recognize his/her paradigm, as it allows identifying his / her role in the research process, determining the course of any research project and distinguishing other perspectives. The two main paradigms in research are Positivism and Constructivism.

### **3.2.1 Positivism**

According to Kolakowski (1972) Positivism is an assumption based on the "rule of phenomenalism" meaning that the valid knowledge can be based on to the reference which is manifested in experience. This means that knowledge can be derived on whatever is seen in reality by the senses. So a major implication which follows from this is that value judgments based on empirical knowledge can not be treated as valid knowledge. Most positivist accounts of educational theory and research, advocate research strategies that are based on the logic and methodology of the natural sciences." The construction of educational theories, as it is a rational activity, is subject to the same standards as the paradigm instances of theorizing that we meet in science. (Kolakowski, 1972, in Carr and Kemmis 1986 p .61)

The research design adopted by positivist approach is quantitative method. The positivist approach to the problem of theory and practice rests on the conviction that it is possible to

produce scientific explanations of educational situations which can be employed to make objective decisions about possible course of action. Therefore in their general approach to research design the quantitative researcher is seeking to deduce cause and affect relationships to predict patterns of behaviour. The research purpose is likely to be causal or predictive rather than exploratory. The quantitative researcher then develops theory and uses this to explore the world. This theoretical framework identifies key variables and their relationships and associations. It allows initial design clarity but the result may not necessarily contribute to existing knowledge.

### **3.2.2 Constructivism**

Constructivism is an educational philosophy within a larger category of philosophies characterized as "rationalism, individual, social, contextual constructivism". Knowledge is constructed by the learner from experience. Learning results from a personal interpretation of knowledge, it is an active process on the basis of experience. Constructivists claim that knowledge is not discovered and that the ideas teachers teach do not correspond to an objective reality. Murphy (1997)

The constructivists approach uses qualitative research method. The qualitative research aims to understand the social world from the viewpoint of respondents, through detailed descriptions of their cognitive and symbolic actions, and through the richness of meaning associated with observable behavior (Wildemuth, 1993 in Mayers, 2000).

Qualitative methods enable us to access the reason behind 'facts', and to create a more complete picture of 'reality'. Conducting research with people, human behaviour especially in educational practices describing complex, interpersonal investigations are skills that are not possible to investigate with structured instruments. These instruments belong to quantitative methods which are called as fixed designs of research by Robson (2002). "Fixed designs are theory-driven. The weakness of fixed design is that they cannot capture the subtleties and complexities of individual human behaviour. Even single case designs are limited to quantitative measures of a single simple behaviour". (Robson, 2002 p.98)

The educational practices involve process and effectiveness of the process as well. But if a researcher focuses on 'measuring' such phenomena, it is likely that she or he would never really come to understand the process that is the real focus of the inquiry. Quantitative and qualitative research approaches in education have arisen from different research needs. The quantitative research approach endlessly pursues facts while the qualitative research approach recognizes the researcher's viewpoint. The quantitative research approach is used when the researcher desires to obtain entire trends or statistical truth in the research while the qualitative research approach is used if the researcher wants to observe in detail by his/her own research viewpoint.

One strength of the qualitative research approach in education is that it is able to emphasize the researcher's viewpoint in the research process as well as on its results. Solutes (1990) states that the qualitative research approach in education is able to encompass interpersonal, social, and cultural contexts of education more fully than the quantitative research approach. The researcher's viewpoint is clearly placed on the research and researcher is able to provide richer and wider-ranging description than in the quantitative research approach. Carr and Kemmis (1986) states that qualitative research approach is "to provide a form of therapeutic self-knowledge which will liberate individuals from the irrational compulsions". (Carr and Kemmis 1986, p.138)

The other strength of this approach is that it is able to explain the psychological dimensions of human beings which are impossible to represent numerically in a quantitative way. Educational research weaves a complex web and some issues are difficult to solve in a quantitative statistical way. There are limitations in a numerical presentation in the complexity of human behavior often investigated in educational research (Sulutes, 1990). For these very reasons Robson (2002) calls qualitative methods as flexible designs.

### **3.3 Purpose of this study**

As researches are undertaken to solve the problems, as stated by Robson (2002) "Much real world research is sparked off by wanting to solve a problem, or a concern for change and

improvement in something to do with practice.” As well as curiosity based on something in the medias, personal values, everyday life, and topics of current interest.”(Robson, 2002, p.47)

Further as noted by Langeveld (1965)

‘Educational studies... are a practical science in the sense that we do not only want to know the facts and to understand relations for the state of knowledge , we want to know and understand in order to be able to act and act “better “ then we did before’ (Langeveld ,1965 , in Bell, 1987,p.16)

This served as a starting point to my research as educational research stresses the desirability of practical outcome. Further the purpose of this study is focused by my interest from my work experience as a special educator to look into effective teaching methods in the classroom to cater the children with special educational needs. One of the very interesting methods I observed during my placement in a primary mainstream school of the Netherlands and the Czech Republic is **Cooperative learning**.

This study looks through this teaching method with a constructive approach and interpretative approach. Constructive approach because “by reflecting on our experiences, we construct our own understanding of the world we live in. Each of us generates our own "rules" and "mental models," which we use to make sense of our experiences” and interpretative approach as “it strives to understand and interpret the world in terms of its actors. In this approach people strive to interpret and operate in an already interpreted world.”(Cohen et al, 2000, p28).

I have based my study on grounded theory which is a more recently developed strategy where the main concern is to develop a theory of the particular social situation forming the basis of the study.

The theory is grounded in the sense of being derived from the study itself. Interviews are commonly used but other methods are not excluded.

Robson (2002) mentions some features of grounded theory;

1. Provides explicit procedures for generating theory in research.



2. Presents a strategy for doing research which, while flexible, is systematic and co-ordinated.
3. Provides explicit procedures for the analysis of qualitative data.
4. Particularly useful in applied areas of research, and novel ones, where the theoretical approach to be selected is not clear or is non-existent.
5. Wide range of exemplars of its use in many applied and professional settings now available.(Robson,2002, p.192)

It is for these reasons that I found my practical experiences in the schools basis for my study.

### **3.4 Aim of the study**

To explore cooperative learning as a teaching method to address the SEN of students with dyslexia in the mainstream classroom. Within this spectrum I would like to explore how cooperative learning helps students with dyslexia in bringing change in their behaviour in terms of academic achievements and social skills.

### **3.5 Research questions**

My study has the central research questions as:

1. How does cooperative learning as a teaching method help in addressing the SEN of dyslexic students in the mainstream classroom?

Within these central questions I try to find:

1. Do teachers use cooperative learning as a teaching strategy in their class room to address SEN of dyslexic students?
2. What is their motivation to use it?
3. What strategies do teachers use for analyzing the progress of the students with SEN while working in the groups?
4. In what ways do teachers think that the students with SEN have benefited from this method?



5. What other teaching methods do teachers use to address the SEN of students in the classroom?

Since my study is based in the inclusive schools that have direct or indirect support of SENCO, I interviewed them as well. The interviews were based on the central questions,

6. What do they think of cooperative learning as a teaching method in addressing SEN of the students in the classroom?

7. How do they think it helps in improving the performance of the students with SEN?

### 3.6 Sample size

It is difficult to pre specify the number of observation sessions, interviews, etc. required in a flexible design study. This could mean that your continuing analysis and interpretation of the data collection already collected throws up conjectures, suggests new themes, etc. which may call for further data collection. It is also likely that in a real world study, external factors (such as having to complete by a given deadline) will limit what you can do.

For my study I selected 3 primary inclusive schools in the Netherlands. I interviewed 6 class teachers of ages 9-10 years and 11-12 years respectively. I also interviewed SENCO of the similar schools.

Similarly I selected 3 basic schools in the Czech Republic although I was able to interview only 3 class teachers and 3 SENCO.

The basis of selection of inclusive schools is that firstly, these schools are addressing the special educational needs of the students with dyslexia. Secondly, these schools have SENCO or support of counseling centers; these schools follow IEP of these students. Thirdly these schools had students with SEN in these age groups.

The basis of selection of this particular age group is that firstly, according to social development this is the time when children master more formal skills and are aware of their strengths and weaknesses. Their self-esteem and confidence is building at these ages. They are acquiring many competencies at this developmental stage. Secondly in these ages their assessment is confirmed or problem identified and they understand that they have certain difficulties in reading or other areas. Thirdly there is an observable influence of the peers in these age groups.

Similarly the basis of selection of teachers was that in qualitative research there are opportunities to get more information from one person. As noted in Robson (2002, p.199), interviewer can keep on going until reached to 'saturation'. This means there are numerous possibilities to get information from one teacher.

Secondly the numbers of teachers were limited on account of limited time. As Robson (2002, p.199) says it is also likely that in the real world study, external factors (such as having to complete by a given deadline) will limit to what can be done.

It is difficult to specify the number of observation sessions, interviews etc in a flexible design study.

### **3.7. Methods of data collection**

To gather the data I used semi-structures interviews and to verify the data I used observations and collected relevant documents from teachers (document analysis).

As Robson (2002, p. 272) says *the interview is a flexible and adaptable way of finding things out*. Cohen, et al (2000, p.271) notes that "interview guide approach, topics and issues to be covered are specified in advance, in outline form; interviewer decides sequence and working of questions in the course of the interview."

Out of fully structured, unstructured and semi- structured interview I selected semi-structured interview which gave me flexibility to change the sequence, rephrase my question if there was any misinterpretation, give alternates in terminology because of language and different usage of terms. As Robson (2002, p.270) has noted that semi-structured interview has predetermined questions, but the order can be modified based upon the interviewer's perception of what seems most appropriate. Question wording can be changed and explanations given; particular questions which seem inappropriate with a particular interviewee can be omitted, or additional ones included. This was not possible in structured or unstructured interviews in my study and context especially with the language difficulty. This would be the case with fully structured interview which has pre determined quest with fixed wordings, usually in a pre-set order. The use of mainly open response quest is the only essential difference from an interview- based survey questionnaire. Similarly, in unstructured

interviews, the interviewer has a general area of interest and concern, but lets the conversation develop within this area. It can be completely informal.

Due to exploratory nature of the study I gave open – ended questions to the teachers. It gave me an opportunity to clarify certain terms from them; it gave teachers flexibility to express themselves and ask for the terms or rephrase my questions. As noted by Robson (2002, p.275) open ended questions are flexible, allows to go in-depth to clear up misunderstandings, encourages co-operation and rapport, allows to make a truer assessment of what the respondent really believes. Further as Cohen et al (2000, p.270) notes open ended questions do not require the selection from a given range of responses –respondents can answer the question in their own way and in their own words.

### **3.7.1 Procedure of interviews**

Interviews were conducted in the schools, on one to one basis. To make teachers comfortable they were interviewed in their own classrooms. The teachers were briefed about the questions almost a week earlier. Keeping the busy schedule and ending of school year in view the duration was kept short from 30 to 40 minutes. The interviews were tape recorded and teachers were asked for their consent. The questions were translated and given to the teachers in the schools of Czech Republic to make the process easier and comfortable. At the time of interview services of interpreter were called in the schools of Czech Republic. (See Appendix 1 & 2)

#### **Advantages and limitations**

Despite of being time consuming interview is a flexible and adaptable way of finding things out. It can give a valuable insight in actions as it involves language.

Robson(2002, p. 272) says face-to face interviews offer the possibility of modifying one's line of enquiry, following up interesting responses and investigating underlying motives in a way that postal and other self-administered questionnaires cannot. Non-verbal cues may give messages which helping understanding the verbal response, possibly changing or even, in extreme cases, reversing its meaning.

### 3.7.2 Observations

Observing behaviour is clearly a useful enquiry technique, than asking directly about what is going on.

Observations as argued by Morrison (1993) enable the researcher to gather data on:

- physical setting, (e.g. seating arrangement, position of teaching material)
- interactional setting, (e.g. formal and informal interactions between students and teacher and amongst students)
- programme setting (e.g. resources and their organization- rotation of two teacher assistants or teacher trainees for the students with special educational needs amongst difference classes). (Morrison, 1993, in Cohen et al, 2000, p. 303)

According to Handden et al., (1998) "Data from direct observation contrasts with, and can often usefully complement, information obtained by virtually any other technique." "Observation also seems to be pre-eminently the appropriate technique for getting real life in the 'real world'. It is of course, possible to observe through one way glass in a laboratory ...but direct observation in the field permits a lack of artificiality which is all too rare with other techniques. It can also reveal substantial differences from observations carried out in more contrived settings (Handden et al., 1998 in Robson 2002, p.310, 311)

#### Advantages and limitations

A major advantage of observation as a technique is its directness. You do not ask people about their views, feelings or attitudes; you watch they do and listen to what they say. (Robson 2000, p, 310)

As Auge and Auge (1999) observed, 'saying is one thing; doing is another.' (Auge and Auge, 1999, in Robson 2000, p.310)

Observations can also be used as supportive or supplementary method to collect data that may complement or set in perspective data obtained by other means.

As with enquiry, the driving force behind the use of observation for enquiry purposes is the research question or questions, even though these may be very broad. (Robson, 2000, p.312)

I have observed the classrooms in order to verify that the teachers are using cooperative

learning as teaching method .i observed to note the groups formed including children with dyslexia, the number of times the groups were formed and given the tasks of working together.

However observations require structure and careful planning. For the same reasons I made a structured observational checklist based on physical, interactional and programme settings. I used this observation checklist in the classrooms during my observations which guided me to be focused. (See Appendix 3.)

I have carried out observations in the classrooms of the ages 9-10 yrs, 11-12yrs. In the Netherlands I could observe on the basis of information given by the teacher beforehand about the group, subject, lesson and activity. I could observe 2 lessons in each group. In the Czech Republic had to depend upon the interpreter to know the group, subject, lesson and activity during the lesson itself. I observed one lesson in each groups. During these observations, some of the class teachers informed students about my presence seeking their consent.

### **3.7.3. Analysis of documents**

A document means a written document, it can be a book, newspaper, magazine, notice, letter or whatever, although the terms is sometimes extended to include non-written documents such as films, television programs, pictures, drawings and photographs. A common approach to documentary analysis is content analysis, the quantitative analysis of what is in the document. Content analysis is defined by Krippendorff (1980) as 'a research technique for making replicable and valid inferences from data to their context'. (Krippendorff, 1980, in Robson 2000, p.350)

Studies involving schools or other educational establishments might include:

- written curricula;
- course outlines;
- other course documents ;
- timetables;
- notices;



### Advantages and disadvantages

When based on existing documents, it is unobtrusive. It can be observed without being 'observed'. The data are in permanent form and hence can be subject to reanalysis, allowing reliability checks and replication studies. Some of the limitations include that the documents available may be limited or partial. Documents have been written for some purpose other than for the research, and it is difficult or impossible to allow for the biases or distortions that this introduces. (Robson, 2000, p.350) For validating my data I collected lesson planning notes from teachers where they mentioned about the use of cooperative learning as a teaching method in the lessons.

### 3.8 Validity

I am aware of validity threat to the data as it can be influenced by personal attitude, misconceptions and preconceived notions. Hitchcock & Hughes (1989) say that as interviews are interpersonal, humans interacting with humans, it is inevitable that the researcher will have some influence on the interviewee and thereby on the data. (Hitchcock & Hughes, 1989, in Cohen et al, 2000, p.121). The objective of the research according to Robson (2000) is stated as "The intention of scientific research is to seek the "truth" about whatever is the subject of the research" (Robson 2002 p.18). Constructivists believe that there is reality, it exists but it's very subjective.

Validity is something to do with it being accurate, or correct, or true. These are difficult things to be sure about. It is possible to recognize situations and circumstances which make validity more likely. (Robson2002, p.170)

One way of validating interview measures is to compare the interview with another measure that has already been shown to be valid. (Cohen, et al, 2000)

Robson (2002) notes **triangulation** can help to counter all of the threats to validity. It is a valuable and widely used strategy involving the use of multiple sources to enhance the rigour of the research. Denzin (1998) has distinguished four types of triangulation:

Data triangulation: the use of more than one method of data collection (e.g. Observation, interviews, documents);



Observer triangulation: using more than one observer in the study;

Methodological triangulation: combining quantitative and qualitative approaches;

Theory triangulation: using multiple theories or perspectives. (Denzin, 1998 in Robson, 2002, p.174)

In my study as triangulation, I have used observations and documents to validate the interviews of the teacher. My interviews were followed by observations in the classrooms and the collections of documents. These observations were based on the checklist and the documents were in the form of lesson planning notes of teachers where they mentioned the use of cooperative learning.

### 3.9 Ethical consideration

According to Robson (2000) scientific research should be carried out systematically, skeptically and ethically. "Ethically means that you follow a code of conduct for the research which ensures that the interest and concerns of those taking part in, or possibly affected by, the research are safeguarded". (Robson 2000, p.18)

According to Klave (1996) in Cohen 2000, p.292) Interviews have an ethical dimension; they concern interpersonal interaction and produce information about the human condition. The three main areas of ethical issues here are-informed consent, confidentiality, and the consequences of the interviews. to (Klave 1996, in Cohen 2000, p.292)

Keeping in view above facts I considered and made sure in my interviews and classroom observations that:

- To inform the schools teachers and SENCO about the purpose of the study and interviews. To obtain and respect their consent and time in the Netherlands.
- Similarly ,to inform and obtain consent from the school director along with the teachers, SENCO
- To explain that the data, information will be used in my teaching practices in my country.
- To obtain consent of teachers to take pictures and use them as illustrations in my work.
- To respect the willingness of teachers to participate in the interviews.

- Not to coercing teachers to participate,
- To consideration and respect their privacy, by not invading too far.
- During observations, to explain to students about the purpose of my study and need of observation. To respect their consent.

### **3.10 Limitations**

During my study I faced two major constraints in my data collection and practical experience.

First limitation for the interviews was language barrier. In the Czech Republic, I had to consider and depend on the interpreter for interviews. Sometimes there were miscommunications, misinterpretations and so many times I had to loose information due to lack of clarifications during interpretation.

In the schools of Czech Republic, my practical experiences and classroom observation were limited due to language and time factor. For the schools month of June is the year ending month where teachers have to plan for the next school year. Therefore it was difficult to get appointment with them. Secondly, on account of school year ending, there were not many lessons and most of the schools had their excursion trips.

In the Netherlands it was time limitation for getting the appointment from the teachers and SENCO. The teachers were occupied with the planning for the next school year. There were not many lessons as the students were going to the next school.

### **3.11 Anticipated Outcomes**

As the nature of the research is exploratory, it is difficult to anticipate the outcome .Based on my reading on the literature, interviews, and classroom observations I will try to establish that

- The cooperative learning is one of the effective strategies to address the SEN of dyslexic students in the mainstream classroom.

- Teachers in the mainstream classrooms of the inclusive primary schools use this as one of the regular method of teaching. It not only benefits the students with SEN but also the other students.
- With cooperative learning as a teaching method there is a change in behaviour of the students with SEN in their academic performance and social skills.
- Some reflective questions for the teachers to use cooperative learning effectively to address the SEN of students in the classroom.

Section	Key points	Content of the section
A	Introduction of the study	Total number of students, total number of schools, types of SEN, teaching assistant
B	Methodology	How the data was collected, type of data collection, why, if not why?
C	Findings	Composition of the group, findings, implications for practice, group working, teaching and learning
D	Conclusion	Other findings, implications for practice, teaching and learning
E	References	References
F	Appendix	Appendix

## CHAPTER FOUR

### Analysis

#### 4.1. Introduction

In this chapter I will deal with the findings of the study, demonstrating the transcription of interviews supported by the observations. These interviews were conducted in the inclusive primary schools of the Czech Republic and the Netherlands.

In this chapter I will give brief profiles of the schools where I conducted interviews and my observations.

In my interviews (See Questions, Appendix 1), I developed a set of questions into 5 sections. (See table 1).

Table: 1

Section	Name of the section	Content of the section
A	Profile of the school	Total number of students, total number of teachers, types of SEN, teaching assistance.
B	Use and motivation to use cooperative learning as a teaching method	Use of cooperative learning in the classroom, if yes why, if not why?
C	components, implementation and evaluation of cooperative learning	Composition, size of the group, promotive interaction, individual accountability, group skills, group processing, monitoring and evaluation of learning.
D	Other teaching methods	Other teaching methods used in the classroom to address the SEN of the students with dyslexia
E	Challenges and issues in the use of	Has it benefited or not in addressing the SEN of the students with dyslexia, social skills, or any other.

	cooperative learning as a teaching method	What challenges/difficulties come with it in learning situations?
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I asked these questions to the class teachers of age groups 9-10 and 11-12 years. I intended to interview 6 teachers and 3 SENCO of the 3 mainstream language I could interview only 3 teachers and 2 SENCO, in the Czech Republic and 6 teachers and 3 SENCO in the Netherlands.(See Table 2) These interviews were audio-taped and then transcribed. These were followed by the observations in the classrooms and activities. The interview sessions were in average for 30 – 35 minutes and the observations were for 2 lessons. These lessons were averagely for 45 minutes.

Table 2

School	City	Country	Number of teachers	Number of SENCO
1.Basic school Rooseveltova	Prague	The Czech republic	2	1
2.Basic school Cervený vrch	Prague	The Czech republic	1	
3.Basic school of Prof.Zdeněk Matejček	Most	The Czech republic	-	1
4.De Wildert	Goirle	The Netherlands	2	1
5.De Bron	Goirle	The Netherlands	2	1
6.De Evenaar	Nieuwegein	The Netherlands	2	1

The mainstream schools are supported by the Special needs coordinator (SENCO). The SENCO helps teachers in implementing the Individual Education Plans, adapting the teaching methods, teaching aids counseling for teachers, students and parents. Therefore a SENCO plays an important role in helping teacher to manage classroom and apply methods to address the special educational needs of the students. This was the basis of choosing to interview SENCO of the 3 schools each in the two countries.

I managed to interview the three SENCO. The questions for them were based on their recommendation to use cooperative learning as a teaching strategy, the benefits they have experienced in addressing the SEN. The questions used in the interviews were based on teacher's attitude towards this method, and the challenges they face with this method. I asked about the concerns from parents regarding it as a teaching method.

The interviews were arranged with the teachers and SENCO in the month of May and June 2006.

As a next step to validate my data collected during interviews, I planned the classroom observations. This was to verify the use of cooperative learning as a teaching strategy in the classrooms in addressing the special educational needs of the students. I planned to make two classroom observations of the lessons. However, again due to limited time and the language barrier I had to restrict my classroom observation to one lesson in the class.

The third step to validate my data I planned to take the photocopy of the lesson plan books or other documents where the teachers would plan and write activities for the group work. This also had limitation in the schools of Czech Republic as the teachers did not plan and write it anywhere.

In order to keep the anonymity of the names of the teachers and SENCO for ethical reasons, the teachers in the Czech Republic have been given name as CzT and CzS, and the Netherlands as NIT, NIS. Further they are given numbers according to the number of the school. (See table 2)



## 4.2 Basic schools in the Czech Republic

### *Basic school Rooseveltova, Prague*

It is a basic primary school with integrated special classes. The school has 150 students of ages 6 to 13 years with various special educational needs. These include dyslexia, dyscalculia, dysorthographia, autism and behaviour problems. The school has 3 specialised classes and 4 mainstream classes. The specialised classes have students with above mentioned special educational needs. In the specialized classes there are 14 students with one teacher who is a trained. The school has 4 mainstream classes. In the normal classes there are around 19 students and integrated students with special educational needs. These mainstream classrooms have teacher assistants. The two teacher assistants in school are on rotation. The school is supported by the Special Educational Centre Vertical Rooseveltova. This centre supports the school and teachers in preparing IEP, creating special teaching methods, creating teaching aids, teaching topics. The school gets support from the centre for the teachers, parents, students in the form of counseling. SENCO<sup>4</sup> visits the schools 2-3 times a month.

In this school I interviewed 2 class teachers of the age groups 9-10 and 11-12 years respectively.

I also interviewed the SENCO who visits the school and supports the teachers in the roles mentioned above.

About section B (refer to table 1) class teachers CzT1 and CzT2 said that *"it depends on the day when children want to cooperate and when they do not want to work in the groups"*.

Teachers like to use this strategy as CzT2 responded that *they learn to cooperate and create something together*.

While T1 felt *students learn how to make goals in the group, talk in the group, some who are always talking learn to be quiet and still for a while and let others speak*.

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<sup>4</sup> In Czech republic SENCO is the special educator working in the area of counseling( e.g. special education centre , educational psychological centre, intervention centre.

In section C (refer to table 1) about benefits and progress of group work teachers find it helpful in improving social and academic skills. For social skills T2 said that she has seen a gradual change in the behaviour of the students.

Where as CzT2 felt that... *“it’s important for children that they hear from other children in the group that they are good, not only from the teachers. For example there was a girl in class 5 who had high self confidence and she could not work in the group she was asked to work individually and now she can work in the group...”*

During my classroom observation of the class teacher CzT2I saw that in the classroom of age 9-10 the students were seated around three tables in the groups of 3-4. The lesson was about the functions of the sense organs. The teacher used blindfold activity for the olfactory and taste senses. She divided the students in the groups of 4 each and then blindfolded them. She made them smell 4 various odours and students were asked first to react on good or bad odour and then identify them. The same activity was repeated with the taste.

During this activity I observed that the 2 students with SEN were helped by the others in identifying the odours and the tastes.

Second observation was in the class of students of age group 11-12 years. It was a geography lesson where students were identifying and labeling the physical features of Europe in the map. The students were sitting in the rows one after the other. The class teacher CzT1 did not plan activity before that they would work in groups but she asked students weather they would like to work in groups for labeling the map. Only four students wanted to work together. The two students with dyslexia and ADHD decided not to work with anyone so they worked alone.

The CzS1 working with the school and teachers about the cooperative learning as a teaching method said *we appreciate when the teacher does it; we talk to them about it as it is good for the whole class. Students with special educational needs like it and are much more motivated than working individually. They learn more as they are active; if you are active you learn and remember much more. You remember doing things, remember the examples what the others ask. Always children are benefited working in the group rather than working with the teacher assistant sometimes at the back of the class. There is not much cooperation. It’s not good.*

*When they work together in the groups they are benefited. Communicating, doing, completing a task is quite different then only working with others during the breaks.*

### ***Basic school Cerveny Vrch, Prague***

This is an inclusive basic school with total 650 students. The special educational needs include dyslexia, dyscalculia, ADHD, Asperger's syndrome, DMO muscular dystrophy, Down's syndrome and concentration problems. The school has support of the special education centre and a SENCO pays regular visits once a week in the class of the students with special educational needs.

I was able to interview one class teacher of the students with ages 9-10 years. The class had 23 students. There were 4 students with SEN one student with dyslexia, dysorthographia, ADHD and one with autism.

The teacher had teaching assistant in the class who worked with the student with autism.

During my lesson observation I found that the two students with SEN were given work at their level of abilities. Students were sitting in the rows. It was a math's lesson and the students were writing 3 digit numbers in ascending order. The two students with dyslexia and autism were also writing the numbers with 2 digits. After the writing work a group of 8 students were given 8 two digit numbers cards. The two students with special educational needs were asked to arrange the 8 numbers in ascending order. This activity was adapted to include the two children in the class; it was multisensory involving movement, visual and auditory modalities of all the students.

### ***Basic school of Prof. Zdenek Matejcek, MOST***

This is a basic school for children with specific learning difficulties, dyslexia, ADHD and behaviour problems. The students are from age 6 to 18 years. This school caters to the students who for various reasons are not able to attend the mainstream schools. There are possibilities that students can be integrated back to the mainstream but students and parents generally like to remain in this school. The school offers academic training, vocational training, parental training and counseling, speech therapies to the students. The school

emphasises on life skills so that the students can become independent. For the same purpose the school has a unit of independent living.

The school follows theme based teaching. This means that every year school takes up a theme and curriculum is based on this theme. The school has an interactive board where students work as a whole group using computer instead of working individually.

The director of the school shared that cooperative learning is an important teaching method in the school. About the method she said *most important thing is every child is involved. Every child finds his own role in the group. Some of them are leaders, some of them need help. If groups are working then teacher can work individually. It's a great preparation for child for life.*

During the observation in one of the classrooms I noted that in language lesson the students were divided into groups of 3. One group was working on the computer, one group was working with the book one group was working with cards on the table and the fourth group was working on the board.

From other methods followed in the school to address the special educational needs is multisensory approach in all the lessons. The lessons are planned in such ways that have activities involving all the senses. In almost every lesson there is movement as the director said that it helps in chanelising energy of the students.

#### **4.3 An overview of the basic schools in Czech Republic**

During interviews with the teachers, teachers said that the size of the groups in the class is generally 3. Composition of the group depends on the activity and subject. All of them say that the group work depends upon students, if they want to work in the group or not.

About the benefits of the cooperative learning and the progress in the performance in terms of academics and social skills the teachers were clearer about progress in the social skills. All of them agreed that it helps in social skills. When they pair a talkative child with the quiet child both of them change for the better. They learn to communicate.

The teachers generally evaluate individual performances by the tests worksheets or asking questions orally after working in the groups.

About the challenges of working in the group they say that in the groups children don't work properly because other children in the group do not work. In such situations they either change the topic or give them some physical exercises.

Parents have not shown any concern about the teaching method followed in the classrooms.

About other methods in addressing the SEN of the students the teachers said that they would prefer the students to work individually with teacher assistant.

In observing 3 lessons I found that only one lesson was planned and recommendations of the special education centre to involve student with special educational needs were followed in classroom by the teacher. In the other two lessons group work depended upon the students.

However in all the 3 schools students in the classroom were not explained about the purpose of my presence. The students were conscious of my presence and I observed that they were distracted from their tasks.

#### **4.4 The primary schools in the Netherlands**

##### ***De Wildert School Goirle***

This is a primary inclusive school with 80 students from age 4 -14 years.

The school addresses to the SEN of the children having dyslexia, ADHD, ODD<sup>5</sup>, with IQ 70, asperger's syndrome and behaviour problems. There are 8 teachers in total which means in a group of every 15 students there is a teacher. The school has a resource room which is well equipped with the remedial teaching material, various reading programs, and is coordinated by SENCO. The school SENCO works with the teachers in planning and carrying out IEP of the students with SEN. The SENCO also works with the teachers, parents, and students for counseling. Students with SEN are given individual sessions within the classroom and outside the classroom depending upon the class teacher. Teachers and SENCO work in close collaboration to suit best the students needs.

In this school I interviewed two class teachers of students with age groups 9-10 years, 11-12years and the SENCO. About section B (refer table 1), teachers said that the method helps the students in reading with speed and reading comprehension. The class teacher NIT4 of age

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<sup>5</sup> Oppositional defiant disorder



group 11-12 years felt *I think when they are discussing with each other they learn more, helping each other that's a good reason.*

Improving in terms of academic performance and the social skills he said that ....*both I think because they are learning from each other, from me, during the year, they are improving especially in social skills because they have to discuss with each other and answer WHY to each other. This means that they always have to think about their answers, strategies and that's why they learn....*when asked about his motivation to use it as a strategy he said that *"I have to prepare them for the later as life is hard and if you do not have social skills you end up being alone..."*.NIT4

During my observations I found that in the school once a week every Tuesday group 8 students go into all the other younger classes to read with students. It is planned by the teachers. Class teachers give names to students of group 8, names of students of younger classes and the reading level, which is a book or text. These students then go in these younger classes, sometimes in the library or sometimes in some other room or sometimes *just finding a quiet corner in the school* with the books given by the teachers and read together.

Teachers say it has really helped the younger students. The reading speed has improved. During my observation I noticed that the student of class 8 was sorting out the problems within the group like not paying attention, one of the members not being active, one of the members just sitting behind. These elder students encouraged them and brought them back to the task of reading and answering questions related to the text.

The NIS4 of the school said that the reading results of the school were bad in the beginning of the school year. Therefore they started reading in pairs, in the class and in the school as a whole.

She said children like reading in pairs. ....*They like it, when I come they immediately start off that's enough evidence. I tell them what they have to do and what I expect from them. They have to help one another and the ones who are being helped have to ask questions....* She also felt that *it works at various levels. For some it is personal development for some it is academic development.*

She said that children are much more motivated to read as ....*they experience themselves improving...*



The teacher acts as a facilitator during activities. While reading the students try to figure out themselves to how to crack new words and then later on answer the questions. ...*I tell them how to go about reading, what does each one of them have to do...*

In her school she said no parent has come to say anything about students working in the group but she thinks that she has to be prepared, "*I think I will explain the next school year ...when we do it more often we have to explain... That also the good ones learn...*".NIS4

In my other classroom observations I saw change in the group composition like good one in reading was paired with not so good reader and together they were reading and solving some questions.

In my observations I found that these groups were all planned and worked out by the teachers. There was a list of students on the board which defined the groups and the levels of reading. (See Appendix 4)

### ***De Bron, Goirle***

This is an inclusive primary school with 240 students. The special educational needs in the school include dyslexia, dyscalculia, ADHD autism, asperger's syndrome and NLD<sup>6</sup>. The groups generally have 23 students but in 2 groups the strength goes up to 29. There are 8 teachers and the school does not have any teaching assistance. The school has SENCO who works with teachers and in individual sessions with students. She also helps in carrying out the IEP of the students with SEN. The school has resource room with all the teaching aids and reading programs.

I interviewed 2 teachers of the age groups 9-10 and 11- 12 years. They also emphasised that working in the groups helps in developing and improving social skills.

For the class teacher NIT5 of group 8 (ages 11-12) years the driving force to use cooperative learning is to motivate students to read. *In my class it is more important to motivate them. Children these days don't have concentration to sit and read. They have to read with interest. They have to get pleasure in reading. I constantly look for new ways to motivate them...*

In my observation in the age group of 9-10 years , I noticed that the teacher first asked everyone to read the text and then she gave them all a card on which some operations were written like  $7/8$  ,  $15 + 27$ ,  $47$ ,  $56$ , and so on. The students had to look for other student who had

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<sup>6</sup> NLD: non verbal learning disorder

the answers, and then sit together and answer the questions from the text. This was planned by the teacher. These cards were always shuffled or renewed so that the students keep changing the partners.

The SENCO of the school said that *while reading in groups, reading improves and it depends upon child to child.*

### ***DE Evanaar, Nieuwegein***

This is a special primary school with 115 students. The ages of the children are 6 to 12 years. The SEN of the students are dyslexia, autism, behaviour problems, ADHD and Romas. In this school I interviewed two teachers of the ages 11-12 and 9-10 Years. The school has SENCO and a resource room. There were 2 groups with the students of same age group. For the class teachers of student's ages 11-12 years they said that *students can learn from each other. I believe I can tell them a lot that's a way of learning, when they work in the groups they learn from each other.*

About working in the groups in school the other teacher said *I think you need it in your whole life. You have to listen to another person and you have to take responsibility so child has to learn everything which he would need later in life.*

Teacher said that it makes the environment friendlier as students know that they are not judged by anyone so they read better. The SENCO of the school said *learning in cooperation is very fine, children find out themselves, they participate and become independent... We took this decision to take up this method from last 2 and half years and we are following it in our school.*

In my observation I noticed the children sitting in the groups of 5 on one table and solving a word finder.

The teachers also planned the activities working in the groups specially reading. They write it down in their planning books that when and how the groups will work. (See Appendix 5)

#### 4.5 An overview of the primary schools in the Netherlands

The 6 teachers in the Netherlands I interviewed followed the cooperative learning as one of the method of addressing the SEN of the students.

They all find it benefiting the students in academic and social skills. In the whole school year in academics they found increase in reading speed, reading comprehension and the grades getting better from E and D to C. Similarly in the social skills teachers found the students growing responsible, from talkative to quiet and shy to open up.

All of them said that the working groups should be of 2 to 3 students. They keep changing the composition of the group according to the subject and activity involving everyone and giving chance to everyone.

They evaluate the individual performance by test, worksheets and oral questioning. They face challenges in the form of students talking and hiding in the group but then they say they supervise them and when they find any student not paying attention towards the task they ask him to do so.

Two of the teachers felt that to be able to work in the group students must have the required appropriate level of social skills.

As one of them noted that *socially they have to match. Not every good reader is a good tutor.* Another one felt *...I don't say it's always possible because when the social skills of the children are very low they can not work together...*

In the other methods for addressing the SEN they all pointed the use of computer, various programs on computer, various activities like projects and reading programs.

#### 4.6 Summary

There are some similarities and differences in the use of cooperative learning in schools of both the countries which are listed in table 3

Table 3

Similarities	Differences	
<ul style="list-style-type: none"><li>Teachers find cooperative learning benefiting students with SEN and without SEN.</li><li>Teachers find cooperative learning contributing in developing and improving social skills and academic skills. Teachers feel students remember and retain faster and longer when they share their experiences and find learn in the groups.</li><li>Teachers address the SEN of students through individual sessions.</li></ul>	<b>The Czech republic</b> <ul style="list-style-type: none"><li>In two schools of Czech Republic the teachers planned the activities for students to work in groups, while some felt that they would only use it if the students want to work in the group.</li><li>Some teachers prefer individual sessions in addressing the SEN of students.</li><li>The use of cooperative learning depends upon the subject and the topic.</li></ul>	<b>The Netherlands</b> <ul style="list-style-type: none"><li>In the Netherlands teachers use it to motivate students to read. It is a regular teaching method followed with planning and structuring.</li><li>Teachers find it especially helpful in improving reading speed and reading comprehension over the school year.</li><li>Teachers use this method specially to develop social skills which are very important in later in life.</li><li>Teachers</li></ul>

	CHAPTER FIVE	pointed the use of computers and reading cards in addressing the SEN in the class
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5.1. Interpretation and discussion

Few interesting issues mentioned by the teachers in the schools of the Netherlands are that working in the group sets a climate for reading as the students are not judged by the peers so they can read with errors and improve it. Secondly it makes the environment of the class friendlier to work.

In my next chapter I will interpret the results in the light of above points with the background of literature review.

## **CHAPTER FIVE**

### **Evaluation**

This chapter deals with the interpretation of the findings in chapter 4 in the light of literature review in chapter 2.

#### **5.1. Interpretation and discussion**

The findings from the interviews of the teachers indicate that cooperative learning has benefits for the whole class and the students with SEN

##### **5.1.1. Benefits of cooperative learning**

- The cooperative learning benefits students with special educational needs as well as other students. The students are active and retain for a longer period when they work together. During the process of working towards the set goals students interact with each other solve the problems by experiences and examples.

A group of students engaged in cooperative learning works together to achieve shared goals. Students help one another learn and perform better than they would if they were working alone Johnson & Johnson (1994, in Chiu 2004) When students have the opportunity of working jointly together to construct new understandings, they develop an understanding of the unanimity of purpose of the group and the need to help and support each other's learning (Gillies & Ashman, 1998; Johnson & Johnson, 1990, in Gillies, 2006). In so doing, they often provide information, prompts, reminders, and encouragement to others' requests for help or perceived need for help.

Students can experience a conflict between their own ideas and the ideas of others and in order to resolve this cognitive conflict the students the students must explain the viewpoints to each other. That is, student can learn not only hearing the explanations of others but also providing their own explanations. De Lisisi & Golbeck (1999 in Krol et al 2004)

- The teachers felt that it helps students in improving academic and social skills. There is an improvement in the grades of students.



Cooperative learning is now accepted as an important teaching-learning strategy that promotes positive learning outcomes for all students, including students with a range of diverse learning and adjustment needs (Johnson & Johnson, 2002; Slavin, 1995 in Gillies, 2006). When children work cooperatively together, they show increased participation in group discussions, demonstrate a more sophisticated level of discourse, engage in fewer interruptions when others speak, and provide more intellectually valuable contributions to those discussions (Shachar & Sharan, 1994; Webb & Farivar, 1999 in Gillies, 2006).

- Working in the group improves social skills which for most of the teachers is an important skill for the later life. Most of them said that they pay attention to attribute like taking turns, listening to others, respecting others, taking responsibilities are very important attributes to live in the society and in the high school. And while working in the group in class students with or without SEN learns it.
- Working in the group makes students feel easy and friendly as it sets an environment where students feel not being judged by others. (See Appendix 6)

Peers are often more aware than their teachers of what other children do not understand, are able to focus the other student's attention to the relevant features of the problem, and provide explanations in a way that can be readily understood. (Webb & Farivar, 1994 in Gillies, 2006).

- The students should have same social level. Students should have ability to discuss, concentrate for at least 20 minutes.

According to Cohen (1994), there is undesirable domination on the part of some students, and non-participation and withdrawal on the part of others particularly in classroom with wide abilities. These barriers can be overcome only with intensive and ongoing teacher's preparation and coaching. Further Tudge (1990) says that both Piagetian and Vygotskian frameworks assume that development proceeds towards greater competence. Therefore progression and regression is a possibility when two children interact in learning situations. Much depends on the confidence and competence of individuals involved. There is no guarantee that in the interaction of two peers meaning created would be of higher level. (Tudge 1990, in Beaumont 1999)

### 5.1.2. Planning, implementation of cooperative learning

Group work requires careful planning and monitoring, therefore sometimes it is avoided or done randomly. In a well planned activity to read in the group there has to be clear goals for the group as well as for individuals. The end part of the activity for instance answering questions or worksheets are explained to the students. The composition and size of groups, promotive interactions are the areas which need careful planning which I noticed candidly in my observations.

In well planned lessons also students sometimes have difficulties and need help from the teacher (Webb& Farivar 1999, in Chiu.2004)

### 5.2.2. Evaluation of learning in the group

Teachers in interviews pointed towards individual tests and worksheets after reading or working in the groups. However, over a period of time as in the school year they could observe the progress in terms of academics and social skills of the students with special needs. This comes out of the interviews of the teachers.

According to Slavin 1983a, 1983b, (1990) cooperative learning methods are most effective in producing academic gains when there is individual accountability. It means that when the success of the group depends upon the success of the each individual group member, group goals and individual accountability. This model is most effective in improving each group member's performance and promoting co-operation and better peer relations. (Slavin 1983a, 1983b, 1990, in Stevens et al 1995)

According to Tudge (1990) teachers must do more than merely ask children to collaborate to solve a problem or even to pair a child who is advanced in thinking with one who is less advanced. Each peer interaction must be assessed in terms of shared motivation, status considerations, and individual level of confidence. (Tudge 1990, in Beaumont 1999) Role of a teacher in such a method is of a facilitator where learning of the students is by their own findings and discoveries about the topic.

### **5.2.3. Role of a teacher in cooperative learning**

From the interviews and observation it can be concluded that role of a teacher in such a method is of a facilitator where learning of the students is by their own findings and discoveries about the topic.

In cooperative classrooms, teachers move among the groups to monitor progress and provide specific assistance. In this role, the teacher is 'the guide on the side, not the sage on the stage' (Hertz-Lazarowitz, 1992, in Gillies, 2006). And the language used is more caring and personal as they work more closely with small groups.

### **5.2.4 Other methods to address the SEN of the mainstream classroom**

- Other methods to address the special needs of the class. All teachers and SENCO pointed towards individual sessions but there was wide use of computers for reading as well.

Other methods included multi sensory approach to address the special educational needs of the students in the regular classroom. According to Reid (2005) this is important as dyslexic children often have difficulty receiving information using the auditory modality and it is crucial to ensure that they receive teaching input through their stronger modalities-these are usually the visual kinesthetic modalities. Kinesthetic activities in particular are important as these imply that the learner is experiencing learning- this can be through drama, poetry or field trips and excursions, but it is important that the 'experience ' is evident and the learner needs to be active and participatory throughout this experience.( Reid 2005 p.33) Further a holistic approach to teaching definitely results in progress of students as according to Heinz (2005) Truthfully, there is no magic, but when students learn from teachers who use multisensory instruction in all of their language arts teaching, all students make increased, measurable progress in their reading, writing, speaking and spelling.

### 5.2.5. Other benefits

The **academic benefits** of cooperative learning is that it promotes critical thinking skills, it involves students actively in the learning process, it has improved classroom results, models appropriate student problem solving techniques.

Some **social benefits** including develops a social support system for students, building diversity, establishing a positive atmosphere for modeling and practicing cooperation.

Few **Psychological benefits** including increase in students' self esteem, reducing anxiety, developing positive attitudes towards teachers.

### 5.3 Summary

This study was undertaken in order to investigate the benefits and effectiveness of cooperative learning as a teaching method in a regular classroom. The findings of this study suggest that cooperative learning is one of the factors contributing in the academic and social progress of the students with special needs. It is a teaching method which benefits all the students. Other factors addressing the special educational needs of the students in a regular classroom are individual sessions, computer reading programs, and multisensory approaches in the lessons.

## **CHAPTER SIX**

### **Conclusion**

In this chapter I will be summing up my study, providing implications.

The purpose of this study was to explore the benefits of cooperative learning as a teaching strategy to address special educational needs of the students with dyslexia in mainstream classroom. This study was undertaken in 2 primary inclusive schools and 1 special school each of the Czech Republic and the Netherlands. Here I will be discussing the conclusion and recommendations of my study.

#### **6.1 Conclusions**

The main aim of my study was to explore:

To explore cooperative learning as a teaching method to cater SEN in the mainstream classroom

Coming back to my main research questions which were:

How does cooperative learning help in addressing the SEN of the dyslexic students in a mainstream classroom?

How can cooperative learning as a teaching method be made more effective in addressing the SEN of the classroom?

Within this question I focused on other teaching methods used by teachers to address the SEN of students in the classroom,

My anticipated outcomes were that

- Cooperative learning is one of the effective strategies to address the SEN of dyslexic students in the mainstream classroom.
- Teachers in the mainstream classrooms of the inclusive primary schools use this as one of the regular method of teaching. It not only benefits the students with SEN but also the other students.
- With cooperative learning as a teaching method there is a change in behaviour of the students with SEN in their academic performance and social skills.

- Some reflective questions for the teachers to use cooperative learning effectively to address the SEN of students in the classroom.

Basing this study on the interviews of the teachers in the two schools of the two countries and further following by observations. I managed to reach my anticipated outcomes.

From the interviews and observations it can be concluded that I achieved my outcomes as cooperative learning has benefits and positive contribution in addressing the SEN of the dyslexic students. It improves reading speed, reading comprehension, study skills and the social skills of the students. It helps in building self – esteem of the students.

With this teaching method the whole class is benefited including children with or without SEN.

The findings of the study also indicate that, working in groups is one of the factors contributing to the progress of the students with SEN. Other factors include once a week individual sessions, teaching materials like extensive use of computers and individual education plans.

Secondly, in some schools, this method is not used consciously as a method in addressing the SEN of the students.

Thirdly, this strategy needs careful planning and implementation as there are pitfalls of losing the objective in the class. It requires preparation on account of teacher's part for it to be an effective tool.

## **6.2 Recommendations:**

Based on the conclusions following recommendations can be drawn:

- Teachers require an orientation about the benefits of cooperative learning as teaching method. It can be provided during workshops.
- Workshops for teachers on how to plan the essential elements of cooperative learning and implement it as in the beginning it may seem a very daunting method.
- This study opens a new vision for research on the effective implementation of cooperative learning.
- Further research can be on planning and evaluations on the use of cooperative learning.



- This study opens door for the further research on the student's perspective on cooperative learning with and without special educational needs. The research in terms of the effectiveness of working in the groups
- This study opens door to identify the barriers for teachers to use cooperative learning in the classroom.

Some reflective questions for effective use of cooperative learning as a teaching method for teachers can be:

What do I know about cooperative learning?

What do I think about cooperative learning to use in my class?

How many times in a day or week do I want to use it?

Have I explained the objectives of working in the group in a way that students have taken these objectives as their own?

Are my task instructions, completion clear for the students?

What reward as a group all members will get, is that reward valuable for the students?

Periodically how many times students work in a group and what skills are improving?

### **6.3. Reflections**

In every class there are students who have special needs which are masked by sometimes ignorance of the teachers and the ways to address them in the classroom. This study was undertaken to enhance my knowledge and skills as teacher and special educator to address the special educational needs of dyslexic students in the mainstream classroom. This study has developed my understanding about the education system of the two countries where I carried out my investigations.

Underlying idea behind this study was to explore the use, benefits of cooperative learning by the mainstream classroom teachers in addressing the special educational needs of the students however as the study progressed I developed understanding about the effective use of other teaching methods like various reading programs, remedial work, and multisensory approach to almost every lesson, reinforcement of learning by computer programs. All these have enriched my knowledge which I observed in the schools as a whole and in the classrooms.

The enriching interactions with the school directors, teachers and SENCO have added to my knowledge and practice.

The study of previous researches in my literature review deepened my understanding about cooperative learning and other teaching strategies. This understanding and knowledge has myriad implications in my professional practice as I can use cooperative learning in own teaching practice, further I can orient other teachers, SENCO in my working about benefits, implementation. Orientation of teachers about cooperative learning has special implication in Indian context where generally teachers have large classroom sizes and inclusion of children with dyslexia seems very daunting.

This study has opened my mind in keeping some practical aspects as researcher in undertaking further researches. I have realized the limitations of my instruments of investigation in a situation with a different language.

I realize that I can use close ended questions instead of open ended questions a) to avoid ambiguities in data collection where I am not familiar with the language. This has implication when I undertake a research project in my own country which is multilingual country.

b) Close ended questions would save on time and coordination with the respondents when the study has to be conducted in a limited time.

Other aspect to keep in mind while observing in situations like classrooms to make sure that student are aware about my purpose and presence so that they are not conscious and it does not hinder in their natural behaviour. This has special reference to the situations with a different language set up.

Last but not the least this study and practical experience in the schools of the two countries have me think on the line that how best can I assist teachers in teaching strategies to include children with dyslexia in school.

*"Nobody is good at everything but everybody is good at something"*

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## List of Appendix

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## Appendix 1

### QUESTIONNAIRE

THIS QUESTIONNAIRE IS A PART OF THE DESSERTATION OF M.A. (SEN).2005-2006.

Dear teacher,

My name is Meenakshi Srivastava and I am doing M.A (SEN) from Charles University (Prague), Roehampton University (U.K), and Fontys (The Netherlands).

In my work experience as a special educator in India in last 9 years, I realised that there are inadequate teaching strategies in addressing Special Educational Needs (SEN) of students in the mainstream classroom.

Therefore this list of questions focus on the use of cooperative learning as an effective teaching method in addressing the SEN of classroom.

I assure you the confidentiality and anonymity of your information and experience. The outcome of study will help me in presenting cooperative learning as a tool in addressing SEN of students in mainstream classrooms.

Thank you for your cooperation and valuable time,

Thank you for your attention.

Meenakshi srivastava

May 2006

meenakshi\_stv@yahoo.com

### Questions for the class teachers of age group 9-10 years and 11 – 12 yrs.

This questionnaire is for class teachers. It is divided into four sections.

Section A gathers school profile.

Section B orients the class teacher about the cooperative learning as a tool in addressing SEN of the class.

Section C finds out about the use of cooperative learning in the classroom.

Section D talks about the other teaching method in the classroom to address the SEN.

Section E inquires about the issues , concerns about the use of cooperative learning as a method in learning.

Name of the school:                      Date:                      Day:

Name of the class :                      Name of the classteacher:

### SECTION: "A"

1. How many children are there in your school?
2. How many children with special needs are there in your school? (SEN: Dyslexia, Dyscalculia, Dysgraphia, ADHD, Slow Learners ,Asperger's syndrome, Autism)
3. What is the teacher student ratio in the school?
4. How many children are there in the class having students ages 9-10 years?
5. How many children are there in the class having students ages 11-12 years?

6. What are the SEN in these classes?
7. Do you have any help to the teacher in these 2 classes (teacher assistant)?

#### SECTION: "B"

1. Do you use cooperative learning as a teaching strategy in your class room to address SEN of the students?
2. What is your motivation to use it?

#### SECTION "C"

1. What group skills do you introduce in the group before forming the groups?
2. What is the size of the group?
3. What is the composition of the group for the activities or tasks?(do you group or pair the children according to their abilities , or special educational needs like dyslexia, ADHD, Slow learner)
4. Does this composition change from activity to activity, subject, or the day?
5. What is the goal of the activity on which the group is working like will there be any test, presentation or worksheet? Will it be same for students with SEN?
6. How do students with SEN gather information or material together with other students? ( is it face to face interaction?)
7. How do you know that the reasoning of the students with SEN is challenged by others in the group?
8. Do students encourage each other specially students with SEN?
9. Do other group members give feedback to the students with SEN or vice versa? OR How do you define contribution of students with SEN towards the task?
10. What strategies do you use for analyzing the progress of the students with SEN while working in the group?

-Frequency of the contribution of the students with SEN.

-Checker? (Each member is assigned complementary and interconnected roles that specify responsibilities that the group needs in order to complete the joint task. Teachers create role interdependence among students when they assign them complementary roles such as reader, recorder, checker of understanding, encourager of participation, and elaborator of knowledge. The role of checker, for example, focuses on periodically asking each group mate to explain what is being learned. This is used by the teacher to check the comprehension. So the teacher cannot continually check the understanding of every student, the teacher engineers such checking when students work in cooperative groups and assigning one member the role of checker.

- Do you keep changing Checker?

- Do you give individual test?

- Do you randomly call the name of the student with SEN to present the

activity of the group)

11. How does the group discuss that the actions/ activity of the group were helpful/not helpful? OR How do you see it as helping the behaviour of the student with SEN?
12. Do you see any change in the behaviour of student with SEN in terms of Academic performance, self esteem, student's attitude?
13. In what ways do you think the students with SEN have been benefited by this method?

SECTION: "D"

1. What other teaching methods do you use to address the SEN of students in your classroom?

SECTION: "E"

1. What is your experience with this method as a teaching practice in the classroom specially in addressing the special educational needs?

(like do you think that it has helped in students performance, specially in addressing students with special educational needs if YES in what terms like Academic performance, self esteem etc. Any other change in behaviour /any other ?

If NOT what do you think was the reason?

This has helped students with special needs?

Do parents say anything about it like their child with special needs is helped by it or their normal child is not challenged?

Do you come across with any issues with this method?

Do you have any concerns with this as a teaching method in helping students with SEN or other students?

These questions are for SENCO:

- What do you think of cooperative learning as a teaching method in addressing SEN of the classroom?
- How do you think it helps in improving the academic performance ; boosting self esteem of the students with SEN.
- What is the attitude of students with SEN and other students towards it as a teaching method .
- Do you recommend this as a teaching method to the teachers in the classroom?
- What is your experience with this method as a teaching practice in the classroom specially in addressing the special educational needs?

(like teacher's attitude towards this as a teaching method for addressing SEN in the class

do teachers report satisfaction in their students performance,

This has helped students with special needs

Do parents say anything about it like their child with special needs is helped by it or their normal child is not challenged?)

Do you come across with any issues with this method?

**Appendix 2**  
**THIS QUESTIONARE IS A PART OF THE DESSERTATION**  
**OF M.A. (SEN).2005-2006.**

Vážená paní učitelko, Vážený pane učiteli,  
Jmenuji se Meenakshi Srivastava a jsem studentkou na magisterském stupni studia, obor speciální pedagogika na Karlově univerzitě, Roehampton University (Velká Británie) a univerzitě Fontys (Nizozemí).

Mam devítiletou zkušenost jako speciální pedagožka v Indii. Během praxe jsem zjistila, že v zájmu studentů s poruchami učení nejsou aplikovány dostatečné vyučující techniky na základních školách.

Tento seznam otázek se zaměřuje na využití skupinového vzdělávání jako účinné metody pro vyučování dětí s poruchami učení ve třídě.

Zaručuji, že vámi důvěrné a anonymní zacházení s vámi poskytnutými údaji a zkušenostmi. Výsledek této studie mi pomůže prezentovat skupinové vzdělávání jako způsob oslovování studentů s poruchami učení, kteří se snaží vzdělávat na základní škole. Děkuji vám za vaši spolupráci a váš cenný čas. Vážený

Děkuji vám za pozornost.

Meenakshi Srivastava

May 2006

meenakshi\_stv@yahoo.com

**SECTION: "A"**

1. What is the total strength of the school?
2. Kolik dětí je ve škole?
3. What are the SEN in the school?
4. Jaké poruchy mají děti ve vaší škole?
5. What is the teacher student ratio in the school?
6. Jaký je poměr student žák ve vaší škole?
7. How many children are there in the class having students ages 9-10 years?
8. Kolik dětí je ve třídě ve věku 9 – 10let?
9. How many children are there in the class having students ages 11-12 years?
10. Kolik dětí je ve třídě ve věku 11 – 12 let?
11. What are the SEN in these classes?
12. Jaké jsou poruchy u dětí v těchto třídách?
13. Do you have any help to the teacher in these 2 classes (teacher assistant)?
14. Má učitel nějaké pomocníky v těchto třídách?

### SECTION: "B"

1. Do you use cooperative learning as a teaching strategy in your class room to address SEN of the students?
2. Používáte v těchto třídách jako výukovou metodu skupinovou výuku?
3. What is your motivation to use it?
4. Jakou motivaci máte pro to, že jí používáte?

### SECTION "C"

1. What group skills do you introduce in the group before forming the groups?
2. Před tím, než žáky rozdělíte do skupin, jaké skupinové dovednosti vysvětlíte žákům?
3. What is the size of the group?
4. Velikost skupiny?
5. What is the composition of the group?
6. Jaké je složení skupiny / úroveň schopností, dyslexie, ADHD, Aspergerův syndrom, autismus /
7. Does this composition change from activity to activity, subject, or the day?
8. Liší se složení skupiny podle činnosti, předmětu nebo v průběhu dne?
9. What is the goal of the activity on which the group is working like will there be any test, presentation or worksheet? Will it be same for students with SEN?
10. Jaký je cíl této aktivity skupiny, test, prezentace nebo úkol? A co studenti se speciálními potřebami?
11. How do students with SEN gather information or material together with other students? ( is it face to face interaction?)
12. Jak shromažďují studenti se speciálními potřebami informace a materiály? Je při tom osobní kontakt mezi oběma skupinami?
13. How do you know that the reasoning of the students with SEN is challenged by others in the group?
14. Jak zjistíte, jak se uvažování studenta se speciálními potřebami změnilo vlivem ostatních ve skupině?
15. Do students encourage each other specially students with SEN?
16. Povzbuzují se studenti navzájem a povzbuzují studenty se speciálními potřebami?
17. Do other group members give feedback to the students with SEN or vice versa?  
OR How do you define contribution of students with SEN towards the task?
18. Poskytují ostatní studenti zpětnou vazbu studentům se speciálními potřebami a naopak?



19. What strategies do you use for analyzing the progress of the students with SEN while working in the group?

20. Jaké strategie používáte při analýze pokroku studentů se speciálními potřebami během práce ve skupině?

(-frequency of the contribution of the students with SEN.

/ počet příspěvků studentů se spec.potřebami/

-Checker

/ dělá někdo záznam o příspěvcích v hodině/

- Do you keep changing Checker?
- Měníte tuto osobu, která dělá tento záznam?
- 
- 
- Do you give individual test?
- Dáváte individuální testy?
- 
- Do you randomly call the name of the student with SEN to present the activity of the group)
- Vyzvete někdy náhodně studenta se speciálními potřebami, abyz prezentoval činnost skupiny?

1. How does the group discuss that the actions/ activity of the group were helpful/not helpful? OR How do you see it as helping the behaviour of the student with SEN?
2. Jak skupina diskutuje o tom, která činnost byla přínosná či nepřínosná? Jak to pomáhá chování studenta se spec.potřebami?
- 3.
4. Do you see any change in the behaviour of student with SEN in terms of Academic performance, self esteem, student's attitude?
5. Vidíte nějakou změnu v chování tohoto studenta, pokud se týká výkonu,sebevědomí nebo přístupu k práci?
6. In what ways do you think the students with SEN have been benefited by this method?
7. Jak myslíte, že tato metoda pomohla studentovi se spec.potřebami / výkon, sebedůvěra nebo jinak/

#### SECTION: "D"

1. What other teaching methods do you use to address the SEN of students in your classroom?
2. Jakých dalších metod používáte pro tyto studenty?

#### SECTION:"E"

#### ČÁST E

- What is your experience with this method as a teaching practice in the classroom specially in addressing the special educational needs? (like do you think that it has helped in students performance, specially in addressing students with special educational needs if YES in what terms like Academic performance, self esteem etc.
- Jaké jsou vaše zkušenosti s touto metodou především u studentů se spec.potřebami? (myslíte si např.,že tato metoda pomohla výkonu studenta, že pomohla především studentovi se spec.potřebami.Jetliže ANO,pak uveďte v čem, např.akademický výkon, sebedůvěra atd.
- Any other change in behaviout /any toehr ?
- Nějaká další změna v chování?
- If NOT what do you think was the reason?
- Jestliže NE, proč myslíte, že tomu tak bylo?
- How this has helped students with special needs?
- Jak to pomohlo studentům se spec. potřebami?
- Do parents say anything about it like there child with special needs is helped by it or there normal child is not challenged?
- Co tomu říkají rodiče? Pomáhá to dítěti se spec.potřebami? Není to málo motivující pro zdravé dítě?
- Do you come across with any issues with this method?
- Jaké další problémy se objevily při používání této metody?
- Do you have any concerns with this as a teaching method in helping students with SEN or other students?
- Z jakého důvodu používáte tuto metodu při výukce studentů s spec. potřebami a dalších studentů?

These questions are for SENCO:

Následující otázky jsou pro KOORDINÁTORA:

- What do you think of cooperative learning as a teaching method in addressing SEN of the classroom?
- Jak si myslíte, že toto skupinové vyučování oslovuje studenty se speciálními potřebami?
- 
- How do you think it helps in improving the academic performance ; boosting self esteem of the students with SEN.
- Jak myslíte, že jim pomáhá zlepšit studijní výsledky, sebevědomí?

### Appendix 3

- What is the attitude of students with SEN and other students towards it as a teaching method .
- Jak vyhovuje tato metoda studentům ve třídě a studentům se speciálními potřebami?

#### MEENAKSHI SRIVASTAVA

TIME	SUBJECT/ACTIVITY	TEACHER	SESSION NO.
<p>Number of students in the class</p> <p>Number of students in the class</p> <p>Types of special education needs in the class</p> <p>Number of groups in the class</p>			
<p><b>PHYSICAL STRUCTURE</b></p> <p>Seating arrangement</p> <p>Table arrangement</p> <p>Face to face</p> <p>Face to face &amp; desks</p> <p>Lab table teams</p> <p>Traditional rows</p> <p>Size of the group</p> <p>Number of students in the group</p> <p>Composition of the group:</p> <p>Children with SEN</p> <p>Does teacher have this pair work planned in her planning book. YES/ NO</p> <p>(Take a photocopy of her planning book)</p> <p>Does this composition of the group change from activity to activity, subject or the day?</p> <p>What is the goal of the activity on which the group is working like a discussion, a presentation or worksheet?</p> <p>Is it same for students with SEN?</p> <p>(Take a photocopy of the planning book)</p> <p>How do students with SEN gather information or material together with other students?</p> <p>(Is it face to face interaction?)</p> <p>Is the reasoning of the students with SEN is challenged by others in the group?</p> <p>Are students encouraged by each other specially students with SEN?</p>			

### Appendix 3

#### OBSERVATION CHECKLIST TO CONFIRM MY DATA COLLECTED DURING INTERVIEW

SCHOOL: CLASS: TEACHER:  
TIME: SUBJECT/ACTIVITY: SESSION NO:

Number of students in the class:  
Number of students in the class:  
Types of special educational needs in the class:  
Number of groups in the class:

#### PHYSICAL STRUCTURE:

##### Seating arrangement:

Table arrangement  
Face to face  
Face to face L desks  
Lab table teams  
Traditional rows

##### Size of the group:

Number of students in the group:

##### Composition of the group:

Children with SEN-----others-----

**Does teacher have this pair work planned in her planning book. YES/ NO.**  
(Take a photocopy of her planning book)

**Does this composition of the group change from activity to activity, subject, or the day?**

**What is the goal of the activity on which the group is working like is there any test, presentation or worksheet?**

Is it same for students with SEN?

(Take a photocopy of the planning book)

**How do students with SEN gather information or material together with other students?**

(Is it face to face interaction?)

**Is the reasoning of the students with SEN is challenged by others in the group?**

**Are students encouraged by each other specially students with SEN?**

**Do other group members give feedback to the students with SEN or vice versa? OR**

How have students with SEN contributed towards the task?

**What strategies have been used for analyzing the progress of the students with SEN while working in the group by the teacher?**

-Frequency of the contribution of the students with SEN.

-Checker?

Is there any change in Checker?

Is there any individual test given?

Does the teacher randomly call the name of the student with SEN to present the activity of the group?

# Appendix - 4

Planning for students of group 8 to read with students from other groups.

Tutorlezen.

DE WILBERT MAY 2006  
THE NETHERLANDS.

## Groep 4.

Level  
Beheersen A1

Melanie	Johan + Yvet	6
Ruena	Niene + Joep + Chiara	2
Thijs	Britt + Mike	1
Joey	<del>Denny</del> Denny + John	0/1
Morry	<del>Manon</del> Yauri	per regel voorlezen + zelf lezen 0
Nino	Mandy + Rick	0
Manon	Denise	0

## Groep 5

Jamie	Sabine + Jordan	} Begrijpend leren.
* Linsey	Dennis + Meike	
* Robert	Bradley + Maxime	
Kimberley	Robin + Loes	

## Groepslezen groep 8

	1	2	3	4	5	6	7	8	9	10
Nino	17	25	32							
Joey	17	25	32							
Morry	17	25	32							
Manon	16	35	45							
Linsey	16	35	45							
Ruena	16	35	45							
Jamie	15	17								
Kimberley		17								
Melanie		17								
Robert	16	22	30							
Thijs	18	22	30							



pleinwacht /	8.20 – 8.30 <del>ja</del> / nee	ochtendpauze <del>ja</del> / nee	middagpauze ja / <del>nee</del>
bijzonderheden: <i>* Jaarverslag</i> <i>Beoordeling</i>			
afwezig deze dag:			

tijden	activiteit	leerdoel	werkwijze	evaluatie en leerpunten
8.30 – 8.40	Taal ml <i>leng.</i>	mening waarderen en interesses	Kaars <i>(reading aloud in the group &amp; discuss about the Topic)</i>	
8.40 – 9.00	bavi-lezen	lezen met plezier		
9.00 – 9.30	Spelling (niveauwerk)	staartstukken: -el, -em, er(s) auditiere oefening 4 & 5.	<i>schijf &amp; bord → klassikaal writing &amp; reading new words from the board.</i>	
9.30 – 10.00	Technisch lezen (niveauwerk) <i>Technical Reading</i>	lezen naar interesse	3 verschillende onderwerpen in groups read about subject & talk about subject.	
10.00 – 10.30	Sociale redzaamheid <i>eat and drink</i>			
10.30 – 11.15	Rekenen (niveauwerk)	① tafels 1 t/m 10 ② Delen met/zonder ③ oriëntatie 1 t/m 1000	2 verschillende spellen - vier op een rij → tafels - 0 t/m 130 → oriëntatie	<i>individual work: Melt game in group.</i>

De Evenaar  
dinsdag

Appendix - 5 Planning to work in Groups. (De EVANAAR)  
MAY 2005  
THE NETHERLANDS

		volg orde - lid w. byr n.w. zeifst n.w combineren - meervouden hanteren - gegeven dezei aangeven tot welk geheel	bets hfst 10 →	<del>DEBATE</del>
12.00 – 12.30	Sociale redzaamheid			
12.30 – 13.00	SOVA	complimenten geven. Mario	box	
13.00 – 13.20	Schrijven	20 min geconcentreerd schrijven		
13.20 – 13.50	muziek	parachutistenles		
13.50 – 14.30	handvaardigheid			

13<sup>30</sup> uur Mads/Machiano ergels

ant ~ craft

Aantekeningen: Spellingschriften & rekenbeeltes checken!

11.45 - 12.00	SOVA Social Skills	compliment kunnen geven en incasseren	<p>① dūctee mōb efname in schrift.</p> <p>② 2 lessen zelfst. in schrift.</p>	<p>leermomenten ging niet 'eetijl'.</p> <p>(they were bōdij at the answer book).</p>
12.00 - 12.30	Eten en plein		Kwaliteiten box Name the qualities of the person/student written in the box	Fedeltijl (Good lesson)
12.30 - 13.00	Werkwoord spelling		<p>3 lessen zelfst. maken mōr spelling id lūft.</p> <p>(all in the class)</p>	
13.00 - 14.00	Techniek / consunptief Afspeelspel drama	<p>— korte scene met begin, tussen en eindstr.</p> <p>reë - lūft opdrachten.</p> <p>— verhoel doogiven/dreien</p>	<p>groepjes lūgen kōrtjes en geen voorbereiden.</p> <p>— spelen / evolutie groep.</p> <p>— tafelgroepjes</p>	
14.00 - 14.30	Schrijven			

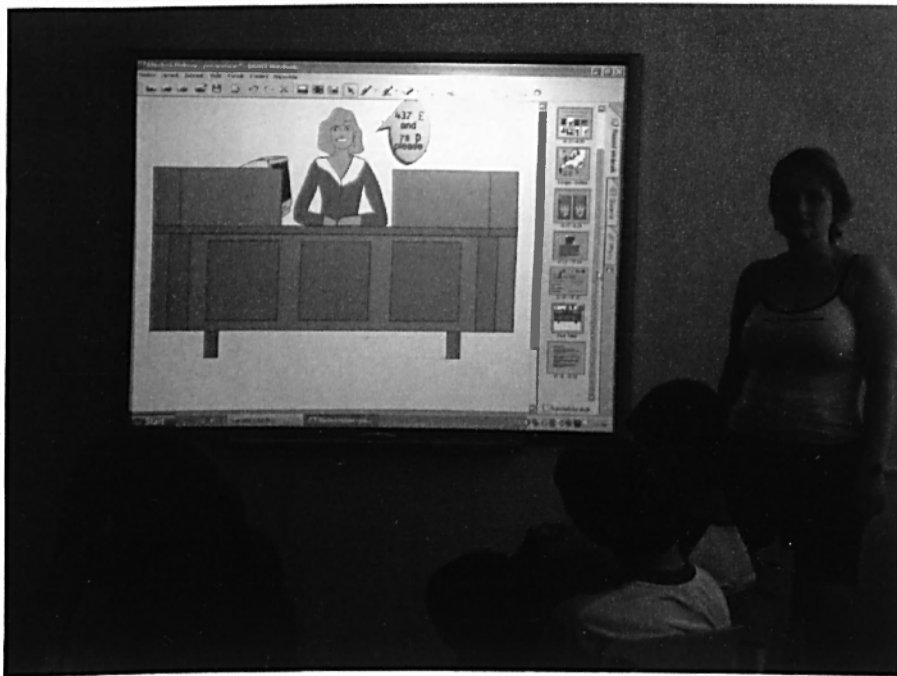
# Aantekeningen:

De Evenaar  
donderdag

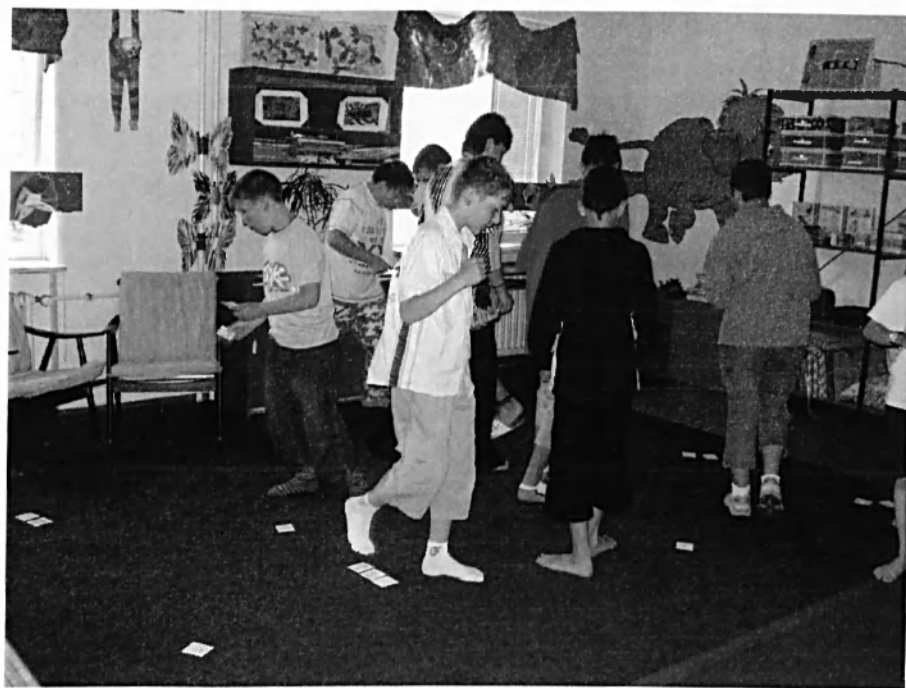
## Appendix 6

### **Pictures of use of cooperative learning in the classes in the Czech Republic and the Netherlands.**

Students working in groups, follow-up activity of lessons, as multisensory approach.



*Interactive board for group learning: the Czech Republic*



*Follow up after math's lesson: cards with answers to addition facts are spread on the floor, students have to look for the right card to match the answers. A multisensory approach towards group learning: the Czech Republic*



*Language lesson: students putting cards with pronouns in the right bags, The Czech Republic*



*Follow up of language lesson: students discussing about fruits: the Czech Republic*



*Follow up of lesson about planets: a multisensory approach in group learning: the Czech Republic*





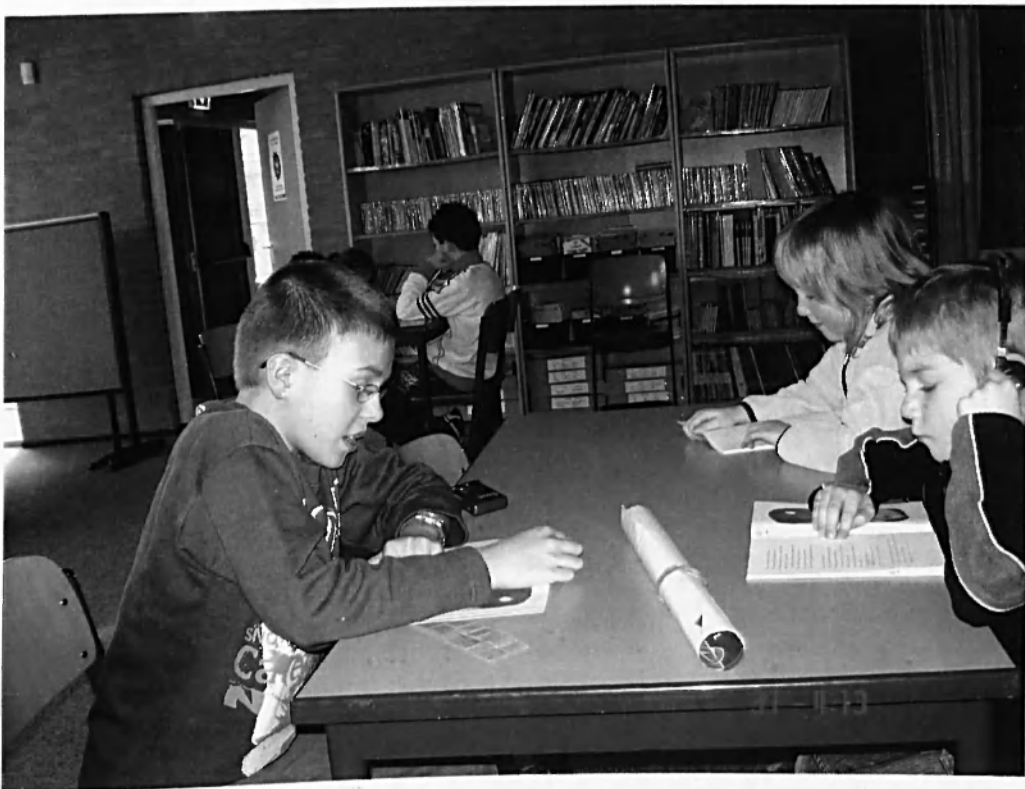
*Biology laboratory lesson: students working on a project: the Czech Republic*



*Students working in the groups in language lesson: the Netherlands*



*Instructions in the group to work in pairs the Netherlands*



*Students of group 8 reading together with students of group 3: the Netherlands*